

298

TGACGACCTC ATCCTTGACC AAGGTGACAT TGTAGACTCT GTTGGCCTTG CTGCTGAATG	2220
TGTCCTTTAC CTTCAATTCG TTATAGTGGT AACCAGTGAT GGCATTTCGG TTGGTTACAT	2280
TAACATCGCT GAGAACATTG GTCAACTTC CAGCATGCCT AACATCACCA GAAGTTCGAT	2340
CCCACAAATT GCCTGCCACT CCAGCGACTC TACCAAAGTG CTTGACATTG TTGATATCAC	2400
CTTCAGCATA GCTATCTTGG ATCTGTGCAT CTCGGTCTAC TAGGCCTGCA AGTCCACCCA	2460
CAGTCTGATC TGAAGTATTT GTGTTAGATG AAATGGCTAC TGTGCTTTT GACTTAGTAA	2520
GTAAAGCCTT GTCACCTGTC AAATGACCGA CCATACCACC GATATTGTAG GCAGCAGTCG	2580
TTTCATAAGT GTTGATAATT CTTCCCTTGA AACTGCTCTC TGTGATGCTT GATTGCTCAG	2640
CCTTAGCCAG CAAACCACCG ATACCACGTT CACCAGCCAG AACACCATCG ACGTGAACCT	2700
GCTTAATTTT TGTGTTATTC TGAGCTTCAT TTGCCAGTGA ACCGATATCA TCTTCCCTG	2760
AAATAGCAAC ATTTTTGTAGA CTCAGTTTTT CTACTGTAGC ACCACTCAAG TTTTCAAACA	2820
GAGGTTTTTT CAAATTATAG ATAGCATAAT TCTTGCCATC TTTTTCACCG ATTAAACGAC	2880
CAGTAAAGGT GTCCTTGATA TAGGATCTTT CATCAGGACC AAGCTCCACT TCGTTAGCAT	2940
TCAGGCTGGC CGCTAAATGA TAGGTTCCAG AGGGATTTTG GTTTATAGCT TTGACCAGAT	3000
TACTAAAGGA AGTAAAGTTT GTTGTTCCTT CTGTTCCCTT CTTAGCTAGA TAGAAGGTAA	3060
AATTATCTTT ATATCTGCTT TCTATCTCCT GCTGAAGCTT CTCTACTTTT GCTGTGATTT	3120
TATAAAGGAT TTTATCATTT TTTCTTTCCT CTGATATTGA TGCTACTGGT AGGTATACAT	3180
CTTTGAATGA AGAAGATTTC ACTTTAACAA AGTAGCTATT TGGATTGCTT GGAACCTGCT	3240
CTAACGAAAT GTGTTGTTTA TAAGTACCAT TTGACAACT GTATAACTCT AGGTCGGAAA	3300
CATTTCTTAA TTCAAGTGT TCTCTGCTT CTTCTACCTT TTTATCAGGG TCTAGTTCAT	3360
TTTCTTGTTT AATTTCTTCG TTTCCATTTG AATTGGATGT GTTTGATTTC GTTGAAACAT	3420
CCTCAGTTGA ATTTCCGTTT GATGGTTCTG CTTCTGTTTG TCCATTCTCT GATGTTGTAT	3480
TACCTGAATT TTCTGGTTTT GTTGCAGTTC CGTTTTTTTC TGGTTGATTT GATTCTTCAA	3540
CTGGTGGTTT TGAATCACTA GGTATTATTG ATACTTCTCC AGTATTTTCG TTAGCTATTT	3600
TCCCAGAGTT TGTTTGTTT TCTCTGCAG GTTGAAGTGG TTTTCTGTT TCTTGATTTG	3660
AGGTACCTTC TACTGTGCCT TCATTTGGAT TTACTGGAAC TTCTTCTACA GTTTTTCTG	3720
AATTTTCATT TTTAGAGTCA TTATGTTCTG GTTTATTGTA TTCTCCAAC GAGGTGTGCG	3780
AATCACTAGG ATTACTGGAC ACTTCCCAG TATTTTGTCT AGATGTATCT GTTGATACCT	3840
TCTCTGAATT CGTTGTTGAT TCTTCTGCAG GTTGAAGTGG ATTTTCTGCT TCTTGAATTG	3900
AGGTTCCTTC TGTAGTACCT TCATTTGGAT TTACTGGTGT TTCTTCTGTT GGTTTTACTG	3960

299

GAACTTCTTC	AGTTTTTCT	GGACCTGTT	CTTGCTCTT	CTCAACCGGA	GTTTCAGGT	4020
TTACTTGCTC	AATATTACCC	TTATATTCTG	GAAGCGGTGC	TACCTGCTCT	GGTTCACCTT	4080
TATCACTTAC	CACAGTATCT	GGCGACTCTG	GTTGAACCTC	AGTCTCACCT	TTGTCGGTCA	4140
CAACTGCTTC	GGGTAATGTA	GGTTGAACTT	CTGGTTCGCC	TTTGTCACCT	ACTACAGCTT	4200
CGGGCAACTC	AGGCTGAATT	GCGGGTTCAA	CAATAGCTCC	AGACTGTACG	TCCTTATGTT	4260
CTACACCAGT	CTCAGGTGT	TCCTTTATAA	CTTGAGTTT	TTTAGTACCT	TTTTCGACTA	4320
TTCTTGACT	AGGCGCAGTC	GTTGAAGTTG	AAACAATTC	TCGCGAACT	TCTTCCTTGT	4380
TTACAGAGAA	TATTCTGACG	ATTTCAACTT	TCTTACCTAA	TTTACCTTCT	TGTTTTACTC	4440
TTACAGTTCC	TTCAGCTAAA	TCAGGATTTT	CTTGAATTC	TTCTTGAAAA	TCTATTTTGT	4500
TCTCCATAGT	TTCTCACGA	TATAAGAGTT	CAGGTTTGT	CAATTGACCT	GATAAAACTT	4560
CATCCTGTGG	ATTTAATGTA	TTTACCCAG	TCTTTTCTTT	TGGAGAAATC	TTCTCCTCTT	4620
TCTTCGTTTC	TAGATTCTTA	TGTTCCGCTA	ATTGTTCTTG	AGAATCTGAA	GATTGTTTCT	4680
CTTCTTTTCT	TGGATTGATT	AATTCAGTAG	AGAAAGGTTT	TTCAACTACT	TGAACCTCTG	4740
TCGGCTTAGT	TGAAGAAACA	GGTGTTTGTT	CCTGAATAGC	TTGTAAGTT	GATGGATGGT	4800
CTACAAAATT	CGGTGTAACA	TTATAATCCA	CCTTTTGTG	TTTGTAGGA	GTGGCAACTG	4860
AACTCTTTTG	ATTACTTACT	TCAGACTCAG	AAGTCGTTTT	TCCCTCTTTG	ATATATCCAA	4920
TATAAGTGTA	ACCTGAAATC	TCTTTAGGAA	GAGGTAATTT	TTCTCCAGAG	GTCAATTCAT	4980
AGTCCGTATT	GTAATTTAGC	AAAAGATGAT	TTTCTAAAGC	ATGGACTGAA	ACTAAGACAC	5040
CATTTCTTAT	CCCTGCAACC	AATACTAAAT	GTAATACCGT	TTTATTTCTTA	ACCTTTTCTT	5100
TGGAAACAGC	AAAAATTAAA	ATTCCCATAG	CAGCTAAGCT	AGCACCAGCA	ACTAGGGCTT	5160
GCCTCTCATT	CTTGCTTCCA	GTAATTGGCA	ATTCCGCCAG	TTGATTTTGA	GAATTTAACT	5220
TATAACAAG	ATAATAAGTT	TCATCATCAT	TCTCCACGTA	TGTCGGAATA	TCATAGACAA	5280
GCTGCTTCTT	TTCTTCTGAT	GATAGCTCTG	AATCTGCCAC	ATATTTATAG	TGAACTCCCG	5340
CAGTTTCTTG	AGCATCCACA	GATGAACTAG	CTAATACAGA	CATAAAAAAT	AAACTTGAAA	5400
TCGTTGCAGA	TACAAGTCCT	ACTGATAATT	TTCTAAATGA	AAAACGCTCT	TGTTTTTCAC	5460
CAAAATACTT	TTCCATTATT	CCTCCTTGAA	ATAAAATTTA	TATATGTTAC	AAAGACCTTT	5520
ATTATATTAG	TGTATTATCT	ATTATCTATA	GAAAAGGCAG	TATACCTTAA	TTATACTCTT	5580
AATTTACAAA	AAAGCTTAA	AATTGAGATG	CGCTTTCATA	CTTTGTTTTA	TATTATTTGG	5640
AGGTACAATA	ACACCTACCA	TGAAATTTAC	ACGGTAGGTG	TTACTCATAT	CACTAATCGT	5700

300

TCTAAAAATG GTTTGAGGCA GTTGAGGAGA ATTCCTTCTA TCCAGCTTCC TTGTGCTGAT	5760
GAGCGATGGT CTTCTGCAG GCTTTTTTTT AGAAAATCTC GGA CTGTTC TGGTGCAT	5820
TCAAATTCAG AGGCTTTCAT TTTATAGAAA AAGTCGATGA GATGATCTGA CAGGIATTC	5880
GTGAAAAGG GTACTTCACC ACTTTTCTA TATTCTAATA AGAGCTAGA AAATCGAGCT	5940
TTTTCTCAG GAAGCTCACG AAAATAGGAA TTGAGGATCC AAGCTGCTT CTGTTTTCTT	6000
TCAATTGGAT CCTGACTGGC AATTCGTTGG TCTTTTCCA GCTCTTTTG GTATTGTTG	6060
GCCTTGATAG CTCGTTCTGC TCTATTTTA CAAAAAGAA TTTTTCCTA CTGCGTTCT	6120
TCTTGAGTCA GGGTCTCTGT AAAGCCAAAG TAATCTTGAT AAGCACGCTC TCGGGTCCC	6180
ATGGCTAGAA CCAGATTGTC TGCATATTGC TTGGCGATTT TATCCCTCTT CTGCGTTCT	6240
TTCTCTGCCT GGATACGGAG TTCTTGTTTC TAGTCAATTT TCTCCTTGCC TAGCTTGACA	6300
AGGTAGAGTT GGTCAATCCG TTTCCCAAGT AAAAAGGGT TGATACACTT TTCAAGGACT	6360
TCTTCCATCC GAGCCTTTT CTTTGGTTCC GCCTTGGTCC AACTTCCTCC CTGAAAGACT	6420
TCTAGGAAAA GCTGGTAGTC TCTCTCAGGC GCAAAATGAT TGCCACGATT GGGTTTGAAA	6480
ACACCTTTTT CCCAGAGCCA TTTTAGAAGT CGCTCGTCAA AGTTACTTTT ATTGACCTTG	6540
ATTTTTCTCT TTTTCTGAGC TTTTCTGGTT AGATTTTCAA CCTTCTGAG CAGTTTTCT	6600
TCCTCTTCCA ATTGCTGGTC AAGGGACAAT CGATGAAAAT GACGAACACA GTCGCTACCA	6660
ATTGGAAGA GCGTTGGCC TGTGACACCG TTAAAGAGTT CATAAGCGTA TTTGATGGCA	6720
TTCCACAGA CACAATTGCT ACGGCCGATA CCGTTAAAAA TAAAGGAAAC TTCATTCCAT	6780
TCCTTGAGT CTTGTTCCA AGTATCCGCT TTCGAAGCCT GTAAACTGC ATCGTGACG	6840
GATTTTCTAA CTGGAAGTGT CATGAGGTCT CCTTTCTAAT ACTCAATAAA AATCAAAGAG	6900
CAAACTAGAA AGCTAGCCGC AATCAGCTCA AACACTGTT TTGAGGTTGT AGATAGAACT	6960
GACGAAGTCA GCTCAAAACA CTGTTTGTAG GTTGTGGATA GAACTGACGA AGTCAGTAAC	7020
CATATATACA GCAAGGCGAA GCTGACGTGG TTTGAAGAGA TTTTCAAAGA GTATAAGTTA	7080
TACTTTTACA ACTTGAACCT CGTCTTTACC GAGTAAATC AAGTATTTT CAATATTTT	7140
AATCGAATAG GCTCGTGATA AAGCCTCTT GTATAGAGCT AACTGACCAC GATAGCGGTC	7200
TACGAGTTGA CTTGGTTCAT CATAGCGGTC TGTCTTGTAG TCGAACAGAA CAATTTTGT	7260
TTCTGAAAGC AGATAGCCAT CAAGGATACC ACGGACAACA AAGTCTTCCT GACTCTTTT	7320
GTCTCGTTG AGCATGGAGA AAGGTTGCTC GCGATAAAGA TGGTCGGTAT TAGCAAGAAT	7380
TTCTGACCG AGTACTGTGT CAAAGAAAGC AAGAATTTT TCAAGATTGA TCTTGTCTCT	7440
GACAGCTTGG CTAGTTTGAA CTTGTTTGAG TGTCTGTGT AGGCTAGCAA GGGTTAGTTG	7500

301

CTGGCTGAGG TCAATTCTCT GCATGAGTTC GTGAGTAGCA CTACCAATCT CAGCTCCAGT	7560
TACCTTTTCT TTGGTTGAAA AATCTGGCAA ATCGAAGCTG ATTTTCTTGC CTACTGACTG	7620
ACCTTGACCA GCAATCTCGA CACCTTCCAT ATCCATAACT GGTTCGTAGA ATTTCTTGAT	7680
TTGACTTGGG GTTTGAACAC TAGGAAGTTC AATAGCTGCG CCGTGAAGAG TATTATAAAC	7740
TTCCACCTCC TTCAGCATTT CCAGAGCTTC TTTGATGGTA TCTGACTGAC GATTGTCTGC	7800
TTGGGAGCTA TCTTGAGAG GACTCTTGGT TTCCAACCTC CCGATAGCTT CTCTGGTCAA	7860
CTGATCTTCG CCAATAAAAC GATAACTAAA GTTGAGCTTG TCCTTAGTAA ACACTTTACT	7920
GATAGCCCAA AGCCAATCTT GGAAATTCGG TGCTTGCAGT CTAGTATTGC TATTTAGTTT	7980
CCCATTTTGG GCTGCTGGGT ATTCCTTGGG TTCCAGCTTT TCACGAGAAC CCTTGCCGAC	8040
AAGATAGAGC TTTTCTCAG CCCGCGTCAT AGCAACATAC AGCAAACGCA TCTGCTCAGA	8100
ATAGCTTGCT AGCTGTAAAT CCTCTTCGTT CTGCCTATAG GTCAGACTAG GAATGGAGAG	8160
TTTGATGGTT TTAGGATAGT GGTCTTCTAC TGCCCCGTGC TCCATCTTGG CAATATATTT	8220
GACACCAAGA CCATTCTGAC GACTGAGAAT GACTTCTGAC ATAGAGTCTT GCTTGTGAA	8280
ATCTTGATCC ATATTGAGGA TAAAGACGTA AGGAAACTCC AGCCCTTTAC TCTTGTGGAT	8340
GGTCATGAGC TCTACTGCAT CTTTGGCGG TGCGACGGCC ACGCTTGCCA AATCGTGCTG	8400
GGCTTCTAAG ACTTGGTCAA TCATACGAAT AAAACGCGAC AAACCTTTGA AATTGCTCTT	8460
TTCAAATTGA TCAGCAGCA GTGCTAGGGC ATAGAGATTG GCCTGCCTAG CAGGACCATT	8520
CGGCAAAGCC CCAACATAGT CATAATAAAA ACGGTCGTTG TAAATCTTCC AAATCAAGTC	8580
ATAGAGAGAG TGGGTTTTGG CATACAAGCG CCAAGAAGCT AGGATATCCA TGAATTGCTT	8640
TAGTTTTTCA GCTAGAGCTG TGTGAATCAA GCCTTTTGA CTACTTGCCA TTTTTTGTGC	8700
ATTGACCAGT TTCTCATAGA GATTTTCGTG GATTTTATCC TCTGCTTTCT GAAGGGACAA	8760
ACGTGCTAGC TCATCCTCAT CAAAACCAA CATTGGAGAC TTCATAAGGG CAACCAAGGC	8820
GTAGTCTTGC AGGGGATTGT GAATGACACG AAGAGTGTCT AGCATGACTT GCACTTCTAG	8880
GGATTGGAGA TAATTGTTTT GCTCTCCGTC AGTTTGTACA GGAATTCGGT ACTCAGACAG	8940
GGCGAGGAGA ATCTGGTCAT TACGACTGCG GCTGGAGGTC AGAAGGGCAA TTTCCTTAAA	9000
GGCAACACCT TTTTCTTGAT GAAGTTTCAG AATCTCCTTG ATAACTAAGC GCATTTGCCC	9060
TGTTAGTTTC GTTCTGTTT GACTCTCTTC TTCTCACCT GTATCGTCCT TGTCGTAGAG	9120
GAGAAATGCT GCCTTGTTGT CTGGATTGGG AGTCAGTTTG GTATTGGCAA AAACAAGCTG	9180
GTGCTTGTTA TCATAGTTGA TTTCGCCGAC CTCTTGGTCC ATGAGACGTT CAAAGACATC	9240

302

ATTGGTTGCT	GACAGCACTT	CTGAACTACT	ACGGAAATTT	TCCTTGAGGA	TAATGAGCCT	9300
GCCTTCTTGG	GGATTTTGCG	CATAGCGTTG	GAATTTCTCA	TTGAAAATCT	GCGGGTCTGC	9360
CTGACGGAAA	CGATAGATGG	ATTGCTTGAT	ATCTCCCACC	ATAAAGCGAT	TGTGGCCATT	9420
AGACAACAAT	TCCAGCATCC	GTTCTTGAAT	ATGGTTGGTA	TCCTGATACT	CATCGACCAT	9480
GACTTCATGG	AAGCGCTCCT	GATAAGACTC	ACGAACTTGT	GGGAAATTC	CTAAAATCTC	9540
AATGGTGTA	TGGCTGATAT	CAGCGAATTC	GAAGGCATTT	TCCTGTCGTT	TTCTCTGACG	9600
ATAAGCCTCT	ACAAAATCGC	TCATGAAAGA	TTGGAAGGTT	TTAGCTAGTT	TCCAAGTGTC	9660
TCCATGATA	CGTTCTTGAT	AGTCGAGAAT	CGCTATCTGG	TCTGATAATT	GTCTTAGTTT	9720
AGCAAATCG	GTCTTTCTCT	CTTCGTTGTA	GGCATCAGCC	AGGGGCTTCA	AATCAGCCTA	9780
CGGCTGGCAT	TAGTCAGAGC	TCGACCGTTT	TTCTCCTTAG	AGATGGCGAC	AACACGCGCA	9840
AGCACTGCCT	GATAAGCCTG	ACTATCGGAC	TCCTGATTTA	GGGAGCCAAT	TTCATCCAGA	9900
ATTAACTGAA	CATTTTCTAA	ATAGGCAGCC	TTGCAAACCT	CCTTGGCATC	GTTATCCAGA	9960
TGGTAACGGA	AAAAGCTTTC	CAAAATCCAA	AGGGCTTGTT	TGATTTGCTC	GGTCAGTTTT	10020
TCTTTTTCAC	TGGTAAAATC	AGCTTTCTCA	AATCCTTTGA	GGAAAGATTC	ACTCAGCCAC	10080
TTTTGAGGAT	TACTGGTGGA	TTGGAGGAAG	TCATAGATTT	TATAGACCTG	CTGGCGCAGA	10140
CCCCGTTCGT	CCTTGCCACG	CCCAGCAAAG	TTTTTCAGCA	AATGACTAAA	GGTCTCTTTC	10200
TGTTTACCTT	GGTAATGCGC	TTCAAAGACC	TCATGAAAGA	CTTCGTTTTC	GAGAATAAGT	10260
TGCTCGCTTT	GGTTTTGTAA	AATACGGAAA	TTAGGTGCAA	TATCAAGCAG	ATAACCATGT	10320
TTGCCAAGGA	ATTTTTGTGT	GAAAGAATCC	ATGGTTCCAA	TGGCAGCGTT	GGTAGGTCT	10380
GCCAACTGGC	GACCCAAGTG	TTGTTTGAGG	TCGACATCAT	CTGTTTCTTG	GATTTTCTTG	10440
CTGATTTTTT	TCTCTAAACG	TTCTTTAAGT	TCAGTTGCAG	CCTTGACCGT	AAAGGTTGAG	10500
ATAAAGAGTT	GAGAAATTTC	GACACCACGC	GCCAATTGGT	CCAGAATGCG	CTCTGCCATG	10560
ACAAAGGTCT	TTCCAGAACC	AGCCGATGCT	GAGACCAGGA	TATCTTGGGC	AGAAGTGTAG	10620
ATAGCTTCGA	TTTGCTCGGC	AGTTTCTTTC	TGTTCCCTGC	TCGAATTTGC	TTCTGCTTCT	10680
TGCAGTTTTT	GAATCTCCTC	CTCACTTAAA	AAGGGAATAA	GCTTCATCGA	TTCAACTCCT	10740
CTCTTATTTT	TTCAAGCCAA	GCTTGCTTGA	GTTTTTCTCC	GACCAGACGC	TTGCCATCAG	10800
CTAGGTCCAA	CTTTTCTAGG	AAACGGGCTT	GGCCCAGATG	GTAATTGGCT	TCAAAGCCTG	10860
TAATAGCCTG	ATGTTGCTGG	ACGTATGGGG	CAATGCTTCT	GCCATTTTCA	GTATAAGGAT	10920
TGATGGCGAA	CCGGCCTGCT	AAAACTTCTT	CAGCAGCTTT	CTTGTAAGAA	TAGGCATTGT	10980
AGTCCAGTAG	GAGCTGAAAT	TCCTCATCTG	TCAGTTGATT	AGCCTTGTTT	TTGTTATAAA	11040

303

ATTCGCCTAA	ATAACTGCCT	TCTTTTCCA	AGAAGAGCCC	TTGGTATTTT	ATAGATTGTC	11100
TGGCTTCTAC	CACTGCTCCT	GCCAGACTTT	TTACCGCCAT	CAGAGATTGG	ACAGGTTTCAG	11160
CCATTTCCTAA	GTACATGGCG	CCGAAAAAGT	TCTGCTCCCC	TTCTCTTTTT	AGGGCAGCAA	11220
GATAGGTTGG	TAACTGAGAA	TTGAGCCCAT	TAAAGAAATG	AGGAACTGG	AACTGAGTCA	11280
GACTGGATTT	GTAGTCTACT	ACTCCTATCG	CTCCATTAGC	TTTCAAACGG	TCAATCCGGT	11340
CCACCTTGCC	TCGTACAAAG	AACTGCGTC	CATTCTCTAA	TTGAATAAAG	GCTTGGTCTT	11400
TTCCACCAAA	ATTTGCTTCT	TCTTTGATGG	TTTCGATGGC	TGGATTGTGT	CGGAGAATAT	11460
GTCCAGTTGT	CCGTGCAACA	TCAAGCAAAA	CTTCCTTGGT	AAACTGGGCT	TCCAAACTTT	11520
CTTGATAAAT	AGCTTCAAAT	TCGCGTTCTT	GACTGGTTTC	TTGAATAGCT	TGTTCTAGAC	11580
GTTGGTCAAA	GGAATCTTCA	TTAGGCAACT	GTAAGGCGCG	TTCAAAGATA	CGATGCAAGA	11640
AATTCCTGTG	ACTACGGGCA	TCAGGATGCA	AACGTAATTC	CTCCTGCAAG	CCTAAAACGT	11700
AGCGTAGGAA	ATAACTGTAT	TCATTGCGAT	AAACTCTGT	CAAACCCGAC	GTAGACAGGT	11760
AAAACCTCTG	TTTGGCAGGA	TAGAGAGCTT	GCAAGGTGTC	CTTGGCTAAG	GTCTTGCTGC	11820
TTGGACTGGT	TGGGATAGCT	GGATTTTCCA	GACCTTGCTG	ATCTAGTTTT	TTACCTATGA	11880
CACGCGACAG	AACCTTGACA	AAAGTCAAAT	CTTGCTCAGT	ATCGCTCATC	TCACCCTGCT	11940
GGTGATAGGC	AACCAGACTA	GACAAAAGAC	TGTGATAGGA	CCCCATATCC	TCCTTAGACA	12000
GTCTTTTGTC	ATTCATCCTC	TTCTCTCTCC	GCCTAAATCC	AAAATGGATC	AACTCTTGAA	12060
GATAGGCAGA	TTCTTACTTT	TCACCTTCGT	TAAAAAGGCT	TGGAGCCGAC	AAGAACAACCT	12120
GCTTACGAGC	AGAATTGACC	AAGGAAAGCA	TAGTGTAGCG	ATTTTCTCTG	AGATTTTCAC	12180
TGCTGGCAAT	CAGTAATTGA	ACGCCTTCTT	CGGTCGCTTG	GTTTAGGTTT	TGCCTTCTTT	12240
CATCTGTCTG	AAGACTGGTG	TTTTGAGAAA	TTTTTGTTAA	ATTGTCCTGA	GTTAGTCCAA	12300
TAGCATAGAC	AAAGTCAGCA	GTCAATGGTG	CAATCAAATC	GTAACCTCTG	ACCAGAACAG	12360
TGTCCACTGT	TGCTGGAATG	GTACGGTATT	GGGACAAACT	CATTCCAGAA	TGGAGCAAGG	12420
CTAGGAAGTC	TTCCAGACTA	ACCTGTGAAC	CAGCAAAAAC	AGTCGCAAAT	TGTTCTAAAA	12480
CATGGCAGAA	AGCCTTCCAA	ACTTCGGCTT	GTCTTTCTCG	TTCTACAGCT	TCCAAAGTGG	12540
TTGTCAAATC	TTGTAAGTGC	TTGGTCACAG	CTCCTTCTTT	TAGAAAGACA	CTCCATTTTT	12600
GTAGGAGTTT	TTCAGCCTTT	TGTTTTTCGGC	TGGCAAAGAG	GGTTTCAAGA	GGTGCTAAAA	12660
TTCTCAGGCG	GAGGACATTC	AAACGCTCAA	GATTAAATTT	TCCATGGTGG	GATTTGGTGA	12720
AGGTTTGCTG	AAAGGCTGGC	AAGCCATTGA	TACCAAGATA	GCGGATATAT	TGCTCAAAAG	12780

304

CATCAATATC	AGACTGACTG	AGGTCAGTAT	ACAAATCAGT	TCTAAGAAGA	TTAATCAAAT	12840
CCTCCTGACG	AAAACGGTAA	CGTTTTAAAG	CTAAAATAGA	CTCGACAAAC	TGAGTCAAGG	12900
GATGATGAGC	CATGGCTTCG	CTTCTACCAA	GATAAAAAGG	AATCTGATAC	TGGTCAAAAA	12960
TGGTTTTGAG	AGATAACTGG	TAAGAAGCTA	CATCCCCCAA	GAGAATACGA	AAATGCTTGT	13020
AGCTCAGGTC	TGAGTTCTCA	TGTAATTTCT	GACGAATACT	ACGGGCTACT	AGCTCCAACT	13080
CCTCCTTTTG	CGTCAAACAA	GACCAGATTT	GTAATTTTTC	ACGGTCTTTC	TCATCGACAT	13140
CCAAAGCGAG	TTCTGAAAAG	TCATAAGAAG	ACTCCAACAA	ACGAGAGGCC	TTGTCAAAAC	13200
TATCCATCTT	CTCATGAGTT	TGAGAACAGT	CCTGAGCAGG	CGTTTGGTAT	TTAGAAGCCA	13260
GATGATGGAG	AAATTTTACG	CTGGCTTGGT	AGAGATTGCC	CTCGCTAAAA	GGACTGGTAT	13320
AGGCTTTCTT	ACTAGCATAA	GCCCCGATAA	CAATCTCAAC	ACCTTTGCCG	TGAAGTAAGT	13380
CCACAACCCG	CTCTTCCTCA	GCAGAAAAAC	GAGTAAAGCC	GTCAATGACC	AAGGCGATTT	13440
GATTAAAAATC	ACTACTTACC	TTGTCACTCT	CAATAGCCTC	AATCAAATGG	GACAACTGAC	13500
TTTCCTGGGC	TAAC TGACCT	TGATTAAAGT	AGGCTGTAC	TTTCTCAAAA	ATCAAGAGTA	13560
AATCCGCCCT	CTTATCCTCA	TCTGTTAAAT	TCTCCAAGTC	CAAAAACTC	ATCTGAGATT	13620
TGGTCATCTC	ATGGTAAAGC	TCAATTAACT	GCTGGATCAA	TTGAGGATCC	TGCTTAATAG	13680
CGCCATAAAC	ACGCAAGTCC	TTGGGATCGA	GTTCCGGCAAG	GCATTGTGTA	AAGGCCAACC	13740
CAAGACCGAT	ATCATCAAGA	GTAGTTTTAG	CTGGTAAATC	ATTCAAGACC	AGATAGCGAG	13800
CCATTTGAGC	AAAGCGCGTG	ACGGTAATCG	AAAAAGAAGC	CTGCTGGGAC	AAGTATTCCA	13860
GCACGGCGCG	TTCTTTTCA	AAAGAAAGAG	AGTTGGGGGC	AATGTAGAAG	ACCCGCTTGC	13920
CAGCTGCAAC	TAGCTCTTCT	GCCTCTCTTG	TTAGAATTTC	TGTCAAAGAA	GTCCGAATAT	13980
CAGTATAAAG	TAATTTCAFC	TCAGCCTCGT	TGGAATTTTT	CATCACCTTA	TATTATACCA	14040
TGATTAGCCT	CGTAAATCTG	TTAAAATATT	TAGGCCATCC	TTTCTTTTCT	TCATCATCTG	14100
CTAAATCTTA	AATACTTAGC	TTTACTTGTA	TTAGATAGAA	TAAGTCTGGC	TACTGAAAAT	14160
CACATAATAA	AAAAGCCTCG	GTAACAAGGC	TTTGAGTTTT	ATGATIGTTT	CTTAGGTACG	14220
GAATACACTT	CAATGTGTTG	TCCCAGTATC	TTAATGTCGA	CTGGTAGATT	GTCTGATTTA	14280
TCGCCATCAA	CATCGGACTC	TAATTCGATA	TCAGAAGAAG	TTTAAATATT	ACGTGCCTTT	14340
ATATATTCAA	TATTCTTGAT	AGAATGATTG	AACTATAGTA	AATTGAAACT	ATAATAGTAC	14400
ACCGTGATG	CTAAAATATT	TCTAGAAATT	AATTTGATTT	CCCTAATCAA	GCTATTCGTA	14460
TCTTATTTCA	ATCTACTATA	ATAAAATGAA	CCAAAAATAG	TACACAATGT	GGTATAATCT	14520
TCTTATGGCA	TATTCAATAG	ATTTTCGTAA	AAAAGTTCTC	TCTTATTGTG	AGCGAACAGG	14580

305

TAGTATAACA GAAGCATCAC ACGTTTTC	14640
AAAGCTAAAA GAGAAAACAG GAGAGCTAAA	14700
AGTTGATAGA GATAGACTTA AAAACTATCT	14760
AATAGCTTCT GACTTTGGCT GTCATCCAAC	14820
CTACACTCGA AAAAAAGAAC CACACCTACT	14880
TTCTTAAGAA TTTTAATAGT TTAAAGCACC	14940
TCGATACTTA TTTTATCGA GAATATGGTC	15000
AAGTATCTGG AAGAAGATAT CAGAGCATTT	15060
TAATCGCTCC AATGACTTAC GAAGAGACGA	15120
AGAAGTTTCT CTTACCAACA TTAACCACAC	15180
ATAGGGGGGG GGGGGGAGGG GGGGGGAGGG	15213

(2) INFORMATION FOR SEQ ID NO: 27:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 6004 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: double
 - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 27:

TTATTACCTG AAACATTAAA TTTAATTGGA	60
AGATTTTAT TATCTGATTC AGGAATTTTA	120
TTCAATTAAAT TATTTGATTC ACTAACATTA	180
TGTTATCGG AATCTAAATA CGATGAGTIT	240
CCACCAGGAA TATATCTCAC TACTAAATTC	300
ATAACAACT CTAGAATATA TTTAGCTAGT	360
TGATACACAT CACCTAATTC AAAAAATGCA	420
ACCTTTTCTC CGTTTTTCAC TAAAAGTTTC	480
TGTGTAGAAT GTGTAGTGAT AATAATTTGA	540
AACTCTTTAA ATTTATAGAT TGCACTCGGA	600
ATTAATGAAT TTGATTGCGC ATTTACTATA	660
CCTGTTCTCG CAAAAGCCTC GGAATATTCT	720

306

GAAGCTTTTA TATCATCACC TTTTGAATAC AACTTATGIG TTAAAAATTG AATGCTCTGTA	780
TAAGATTTCAT CCATTATTTC ACTAATAATT TCACAAACTT TATCATCAAC TTAAACATTA	840
TCTATAACCA TTTCCTTTT ATAACGCGTA TAGCTACTTG TATTATCTT TAAAATATCA	900
GCAACTGGCT TAGATCGTAA TCTTATAAAA TCTTCTTTAC TACGTTGAGT AGAAATTTTT	960
TTAAAAATTAT AGTGATAGAA AAATAAATCA AAAGCAGAAA CATATTCCTT ACAATCACAA	1020
AAGACAACAT TTTTTCCAAT GCCATCCCAT CTGTCTGTCTG AAGAACTTCC AATATATTTA	1080
TTTTTGGGTA ATCTTTCCAT CTCATATTGT TTTTGAGGAG CATATGGTTC CCAATAATCT	1140
AATCCTTTTT TTGTTCCAGA ACGGCCTTTA AGAACTTCTA CATTTCTAGA AGCTTTAATG	1200
TTATAATATG AATAGATTAA ACATTGTTC CCATCCACTT CATCTATTG ATCAACATTT	1260
GTAATAAACC AATATTCAGA CAACTTTTA TTGGCTGGAG AACCATATAA AGCTTGTA	1320
ATTGAAGTTT TATTTACTCC ATATCTATTA CAGACACCTC AGGATTATTT AACTTATAAG	1380
TTTTTAACAGC TACGGAATCA ATTTCAACAG CAACTTGAAC ATCTATGCCT GATTTTTTAA	1440
GGCCACTTGT AGTGCCACCT GCACCGTTAA ATAAATCAAT AGCAACAATT TTCCCCATAG	1500
TATTCTCCTA AAGTTTCTCC TTTTATTAT AACATTATCA AATGTAAAC CCAACCCGAT	1560
AGGGTAGGT TTTTAACATC ATTTACACAA CTTCTTCATC TCATCAATAC GTGCGACGGT	1620
CGCGTCATAT TTAGCTTGGT AGTCAGCTTG TTTGTGCGAT TCTTTTTGGA CGACTTCTGG	1680
TTTGCGCTTG GCTACGAAGC GTTCGTTAGA GAGTTTCTTA CCAACCATGT CCAGTTCTTT	1740
TTGCCATTTA GCAAGTTCCT TGTGAGACG GGCCAGTTCT TCTTCAACAT TGAGGAGATC	1800
GGCCAGTGGC AGGTAGATTT CTGCTCCTGT GATGACACTT GACATAGCCA GTTCAGGTGC	1860
AGGGATGGTT GATGCGATTT CCAAGTGTTC TGGATTTGTA AAGCGTTTGA TATAGTTGAC	1920
ATTGCTGTTA AAGAAGGCTT CCAAGTCGCT ATCGCTTGTC TTAACAAGGA TGGTGATAGG	1980
CTTGCTTGGT GCTACATTTA CTTCCGCACG CGCATTCGGA ACAGCACGAA TCAAGTCTTT	2040
GAGACTTTCC ACACCAGTGT GAGCCGCAAG GTCTTCAAAG GCTAGATTAA CAGTTGGGTA	2100
TGCAGCTGTC ACGATAGAAC CTTCTGAGAT TTGTCCAAAG ATTTCTCTG TCACGAATGG	2160
CATGATTGGG TGAAGGAGAC GAAGGATCTT GTCCAGCGTA TAGAGGAGAA CAGATCGAGT	2220
AATGACCTTA TCGTCTTCAT TGTGCTGTA TAGAACTTCC TTGGTCAACT CAACATACCA	2280
GTTGGCAAAT TCTTCCAGA TGAAGTTGTA AAGGATATGA CCAGCCACAC CAACTCGAA	2340
CTTATCAAAG TTTTCAGTAA CTTTGCAT GGTTCGTTG AGATTGTGGA GAATCCAGCG	2400
GTCCGTCACA TTACCAGCCT CACCTGTTGC AACTTTTGTG ACATTGTCAT GCGCCACATC	2460
CAGCGTCAAA CCTTCATTGT TCATGAGGAT ATAGCGAGAA ATGTTCCAAA TTTTGTTAAT	2520

307

AAAGTTCCAT GAAGCATCCA TTTTCTCGTA AGAGAAACGA ACGTCTTGAC CTGGTGCGGA	2580
ACCGTTTGAA AGGAACCAAC GAAGGGCATC AGCACCGTAT TTCTCGATGA CATCCATTGG	2640
GTCAATCCCG TTACCGAGAG ATTTAGACAT CTTGCGTCCT TGCTCGTCAC GGATGAGACC	2700
GTGGATAAGC ACGTTTGGGA ATGGCTGACG ACCAGTAAAT TCCAAGGACT GGAAGATCAT	2760
ACGAGACACC CAGAAGAAGA TGATGTCGTA ACCTGTTACC AAGGTTGAAG TTGGGAAATA	2820
ACGTTTAAAG TCTTCTGAGT CGACTTCAGG CCAGCCCATG GTTGAAAATG GCCAGAGGGC	2880
AGAACTGAAC CAAGTATCCA AGACGTCTTC GTCCTGAGTC CATCCGTCAC CTTCTGGAGC	2940
TTCTTCGCCG ACATACATTT CACCATCAGC ATTGTACCAG GCAGGGATTG GGTGACCCCA	3000
CCAAAGCTGA CGAGAGATAA CCCAGTCGTG GACATTTTCC ATCCATTGAA GGAAGGTATC	3060
GTGAAACGA GGTGGGTAGA ATTCGACCTT GTCCTCTGTG TCTTGGTTAG CAATGGCGTT	3120
CTTAGCCAAT TGGTCCATCT TGACGAACCA TTGAGTAGAC AAGCGTGGCT CAACTACGAC	3180
ACCTGTACGT TCTGAGTGAC CAACACTGTG GACACGTTTT TCGATTTTGA CAAGGCACCC	3240
GATTTCCTCC AACTTAGCAA CGACTGCCTT ACGAGCTTCA AAACGATCCA TGCCTGAAAA	3300
TTCAAAGGCA AGCTCATTC A TAGTTCCTC GTCGTTTCATG ACGTTGACTT GTGGCAAGTT	3360
ATGACGTTGG CCAACCAAGA AGTCATTTGG ATCGTGGGCA GGTGTGATTT TCACGACACC	3420
AGTACCAAGC TCAGGATCTG CGTGCCTATC TCCAACGATT GGGATGAGTT TATTAGCGAT	3480
TGGAAGGATG ACGTTTTTAC CAATCAAGTC CTTGTAGCGC GGGTCTTCTG GATTAACCGC	3540
AACCGCAACG TCCCCAAACA TAGTCTCAGG ACGAGTTGTA GCAACTTCAA GGGCGCGTGA	3600
ACCATCTTCC AGCATGTAAT TCATGTGGTA GAAGGCACCT TCTACATCCT TGTGAATCAC	3660
CTCAATATCA GAAAGGGCTG TGCAGCTGC TGGGTCCCAG TTGATGATAA ACTCACCACG	3720
ATAGATCCAG CCTTTCTTGT AAAGGTTTAC AAAGACCTTA CGAACAGCTT TTGACAAACC	3780
TTCATCAAGA GTGAAACGCT CACGAGAATA GTCTACAGAA AGCCCCATCT TGCCCCATTG	3840
TTCTTGATG GTAGTGGCAT ATTCGTCTTT CCATTCCTAG ACCTTCGTCA AGAAAGACTC	3900
ACGACCTAGG TCATAACGCG TAATACCTC ACCACGTAAG CGCTCCTCAA CCTTAGCCTG	3960
AGTCGCAATA CCAGCGTGGT CCATACCTGG AAGCCAAAGG GTATCAAAGC CTGTCATGCG	4020
TTTTTGACGG ATGATGATAT CTTGCAAAGT CGTATCCCAA CCGTGACCAA GGTGAAGTTT	4080
CCCAGTTACG TTTGGTGGTG GAATCACGAT TGAATAAGGC TTAGCCTTTT GATCGCCTGA	4140
AGGCTTGAAA ACATCCGCAT CAAGCCATTT TTGGTAACGA CCAGCCTCAA CCTCGGCTGG	4200
ATTGTATTTA GGTGAAAGTT CTTTAGACAT GTGTGTGTCC TTTCTCTATT TTGTTTATTT	4260

308

TATTTTGAAT TTGCTTAGCA GCTTCTTCTG CAGACAAATT CGTATTATTT ATTTTAAAGT	4320
AGTGGTGCAA CTCATTTCGGT TGATGTTGGG AATTTAATTG AAGTGTTTCA GCGTCTCTA	4380
AAATTTCTCT TTCAGATACC TCAATATGTC GTTTTAAGGG TTTGTGCTTT AATCGATTCT	4440
CCGTTTCGATT TCGACGTATG CACTCTTCAA GACTTGTTTC CAATTCAACA AACAGAATCT	4500
CTTGATGAAA GTTATCCAAT AAATCCTGAA TTTGCTTTAA ATACATCAGC TGGTACTGAT	4560
TTGAAAAATC AATTACGTCT GTTAAAAATTA CTGATCGCTG ATTTCTTGCA CTGCTCCAA	4620
GGAAAGAAAA GGTAAATCCA CGAACAAATT CCCACATCTC CTCGGTATAA TCCTGATAGA	4680
TCTCTAGTGC AAAATCAATG GCTTGATGGT TATAAAATAG GGTAGCATCC GTCAGTCGAG	4740
ATAATCTTGG ACCAATGGTC ATTTTTCCTG ATGCTGGAGC ACCAATGATG AAAAGATGCA	4800
TCAAATCACC TCCCCTCAC TCCTCAGCAA GCCATATCTC AAATCATCAC AGCAGTTGCC	4860
TTGAGCATCT TTGCGGTCTC TTATGCGAGC TTCGAGGGTA AAGCCAAGCT TTTCCGAGAC	4920
TCGTTGACTT TGAAGGTAT ATCCAAAGCA AGTTAGTTCA ATCTTGTA GACCAAGTTC	4980
TTTAAAGCT AGATCAATCA AGGAACACGC TGCTTCTGGA ACATAACCTC GACCCCAATA	5040
GTCTGGGTGC AAGGTATAGC CAAGCTCTAG CACATCATCC GCATGAAGAT GGTGAAGTC	5100
AACAGAACCA ATGACTTTAT CGGTTCCTTT GACGACAATC CCATAGCCAG CTGGGAGATT	5160
TTCTTTTGA GTACGCTCCG GAAGAATGIG CTCCAGATAA TAAATCTCAT CTCCAAGAT	5220
CTTGACTGGA GGGAAACCTG CTGGATAGGC GACCTCTGGC AAAGTAGCGT AGGTATGGAT	5280
ATCCTCAGCA TCCACCACTG TCGGACTCG TAAACGAGA CGTTCTGTTT CGATTTTATC	5340
TGGCAGCTCA GTTCTTGCCA TCCTTCTTCC TCGCTTTTTT GATGAACTG CCCTTCATAT	5400
CTACACGCTT GTCCAGATAG CGATAAACGC GCTGATATCC ATCTCCCATG AAATAGGTTG	5460
GGGCAACAG TTGATTTTTA AAATGTCCCT TTTCATCCAG GAGTTCTGGG GCAACAAGTC	5520
GCTCAAGAAT CTTGGCAAAG ATGTGGCAA TACCGTCTTC CTCAACAATC CTATCTACCC	5580
GACAATCTAA AACAAGTGA CAGGCGTCTA AAATAGGAGT CTGAGTTCGT TCAGAAATTT	5640
CATAATGCAC TCCCAAACGT TCCAATTTCT CCTGATGACT GATAAAACCA GCCTGCTCCA	5700
TCGCAAGCAT AGAAGTTTCA TCAGAAATAT TCACAGTAAA TTTTGTGATC TGTTTGATCT	5760
GCTCTGCGGC ATTCTCTCTC GCAACGACTC CAATCACAAC CCAATCTCCT AGACTATAAG	5820
AGGAAGTACA GGTGCTGATG TTATAGCCAA AATTCTAATC TTGATATCCT AAAATAAAAA	5880
CAGGAAAACC ATAATATAGT TTACTTGTGT TAAAAGATTG CTTCATAACA ACCCCCTTTG	5940
ACTAAGACGT AAAAGAAAAG CCCTGCCATC TACATGACAG GGACGAATGT GTTTATCCGC	6000
GGGG	6004

309

(2) INFORMATION FOR SEQ ID NO: 28:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 5857 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: double
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 28:

TGTAGAATTC ACGACAATGC TTCGTTGATT TCTGGGTTGA TTTCGTCGCG TTCTGGCAAG	60
CGAGTCAATG AACCAAAAAT AGTACACAAT GTGGTATAAT CCTTTTATGG CATATTCAAT	120
AGATTTTCGT AAAAAAGTTC TCTCTTATTG TGAGCGAACA GGTAGTATAA CAGAAGCATC	180
ACACGTTTTTC CAAATCTCAC GTAATACCAT TTATGGCTGG TTAAAGCTAA AAGAGAAAAC	240
AGGAGAGCTA AACCACCAAG TAAAAGGAAC AAAACCAAGA AAAGTTGATA GAGATAGACT	300
TAAAACTAT CTTACTGACA ATCCAGATGC TTATTGACT GAAATAGCTT CTGACTTTGG	360
CTGTCAATCC ACTACCATCC ACTATGCGCT CAAAGCTATG GGCTACACTC GAAAAAGAA	420
CCACACCTAC TATGAACAAG ACCCAGAAAA AGTAGCCTTA TTTCTTAAGA ATTTAATAG	480
TTTAAAGCAC CTAACACCTG TTTAGATTGA CGAAACAGGA TTCGATACTT ATTTTATCG	540
AGAATATGGT CGCTCATTA AAGGTCAGTT AATAAGAGGC AAAGTATCTG GAAGAAGATA	600
TCAGAGGATT TCTTTGGTTG CAGGTCTAAC AAATGGTGAG TTAATCGCTC CAATGACTTA	660
CGAAGAGACG ATGACGAGCG ACTTTTTTGA AGCTTGGTTT CAGAAGTTTC TCTACCAAC	720
ATTAACCACA CCATCGGTTA TTATTATGGA TAATGCAAGA TTCCATAGAA TGGGGAAGCT	780
AGAACTCTTG TGTGAAGAGT TTGGGTATAA ACTTTTACCT CTTCCTCCCT ACTCACCTGA	840
GTACAATCCT ATTGAGAAAA CATGGGCTCA TATCAAAAAG CACCTCAAAA AGGTATTACC	900
AAGTTGCAAT ACCTTTTATG AGGCTTTTTT GTCTTGTCTT TGTTTCAATT GACTATATAA	960
ATTGTCTAAG CGAAACAACC GATAAGAATT GGCACAAAAG CGACCGTATT TTTGTTACCA	1020
ATACAGGAAA AACAGTTCAT AGTTCTATCT TGAGCAAGTC TCTCCAGCGA GCAAACGAAC	1080
GCCTTAAAAA ACCAATTCCC AAACATCTGT CCCCTCACAT CTTTCAGACAC ACCACTATTA	1140
GCATCTTATC AGAAAATAAA ATTCCCTTAA AAACAATCAC GGACAGGGTT GGTACATCCCG	1200
ACTCTGAAGT CACTACTTCC ATCTACACCC ACGTCACAAA GAACATGAAA GATGAAGCAA	1260
TCAATGTACT GGATAAAGTT ATGAAAAAGA TTTTTTAAAA AGTTTGTGCC CTTTTTTGCC	1320
CTCTAAATAC AAAAATAGCC CTTTCGATAA AATCCGAGGG GCTAGAAACG TTGTTAAATC	1380

310

AACGGCCGAA CTTTGAATT TCATGGTTCG GGATAAAATA GTTCACTGAA CTATTTTATT	1440
TTTAAAGGTT ATCATAATAT CAAATAGTTC AATTAAATAC GCTAAATTAC TAATATACTT	1500
TTTACCTTTT TCATTCTAAA ATGTAAAGTA CAAACAATTA CAATATACTA GAGGGGGAGT	1560
AAAAAAGGTA TTAATTCGAT GAGTTCAGCA GGCAAGAAAA TAGCACCTTT ACGGGTGCTA	1620
TTTTTTAATT AACGCCACGT TAACTTTTGA TTGATGAATT TTATTGTTTG GCACTTCCTT	1680
CATTCACGG TAAACATCGA TGAAATTCCT TCCAACATTA TTTTGGAGT TAACTGCATT	1740
TATTTTGTGA TTAATAACTT TTTTAGTATC GAAAGAATGG TTAAAGAAAT CCATAACTAA	1800
CTCTCCTTTC TCATCCTGTA ATCAAGATTT TTATCAATGT CAAAATAGTA TTTTCTATCA	1860
ATCCAAATTG GTCCTTCTCC TTTAGAAATA GCAAGTACAT CTACCGGACC TCCTACTGTT	1920
TCAAGAGTGT TGACAATTTT TCTCTTAAAT GAAGTTAATT CAATAAATGT TTTAGCTGTA	1980
CTCGCCATTT CATTAAGTGG TTGCATTCCA ATAAGGTCTA TTATAGGATT TATATAATAT	2040
TTTTGCTGTA TAGATGATAT ATTTTCAAAT ATATTCTCAA TTTCATCACC CAATCCATTT	2100
TTCTCCATAA CTGATGATAC TTGCTCTGCG ATATATACAT TTAAGTTAGG ATCTATACCA	2160
TTCATAATCG TCTCAACCAT CTCTGACTGT GCAAAAGGGA TTATATGACA AGTTTTATGA	2220
TGATTATCA CACTTTCATT AATAACTTTC CAAATTAATC GTTTAGAAAA AATTCCATAT	2280
AATTCATTTT GTCTTATAGA TGGAAATATC TCGTCTGTAC CATAACCTGC TATAACTAAT	2340
CCAGTTATGT TTGTTGAGTC ATATCCAATG AAAATCGCTT TATATAAAGA TTTAGCAATA	2400
ACTTCAACCT CATCATCAGT ATGAGGAAAG GATTTAAAAA CATCGTCTAC AATGCTTTTT	2460
ATTAACCTCA ACTCAGCTTC AAAAAATTCA AAATTACTTT CAGCTTCTAC TTTTGAAATT	2520
TCTAAACTAA AATTAGTTAT AGCATTTAAT AAAATTTTAT TAAATCATC TAGAGTGATG	2580
GTTTCACCAT TAGAACTCT TAAATCAGCT GTTTCTTGCG CTTCATAGGC AATGCTGTCC	2640
AAAATACTTC TTGTACTTCT GACAATATAA TTTCTTAATA AATCCTCAAC TTGTAGATGT	2700
TTAAAGGAAA TTAAAAATTC TATTAGCTTT TCAACGTATT GGCAGTATT ATCTAATAAA	2760
TCTGTGCCAA TAGCCTGCTT AAACCTATTT AAAATTACCT CCCACGGAAT TTCCATAAAC	2820
GAAGCGTTCC CATATATCAT GATCCCCACG GAATGTTCTT TTGATAAAGT GAATAATTTT	2880
CGGGCGCTAT TAAAACTTT TGAATTTTTC CCGTCTGATA AGGTTACAGC GCTATCAGAA	2940
GCCAAATACAA CACCATTTTT ATTTAATATT CCAATTTCTG CTGTCAAAAT ATCACCTAAA	3000
CTTCTAAAAC CTGCTCATGC TCTAATGGTA CAACAGCTAA GGTCTTACCA AGACTTGCCA	3060
ACACTTTTAA TACTGTATCA AGTTGTGGGC TTGTCTTTCC TGTTCATT CTAGCGATAA	3120
CTGGCTGACT AACACCGCTC ATCTCCTCTA GTTCTTCTG ACTAATACCC TTTTCATTTT	3180

TAGCCTCGAT AAGCTCACTC ATGATAGCCA CGCGCATATC ACTTTCCAAA ATTTCCTCTT	3240
TGCTGAATAA TTCAGCTCTT ACATCTTTCC AGTTACTACC AATAGCATT ATTTTTCATTG	3300
TCTAAACCTC TTTCTTTTAA ATCTGCAAGT TCACGTTTAG CTGCTCAAT CTCTCTTTTG	3360
GGTGTTCCT GTGTCCTTT CATAAAATGA TGCAGTAAAA CAAACTACC ATCCATCCAA	3420
GCAACAAATA AAATTCATC TCTAAGTGGT CTCAGCTCCC AAATTCAGC ATCTAAATGC	3480
TTAATATATG GTTCGCCTGC GCGTGTCCA TGTGGCTTA ACAACTCAAT ATAATCATT A	3540
ATTTTATTAA GCTTAATTCT GCTATCTTTC CCTTTTTTAC TGGTAAGCTC TCGCATATAA	3600
TCAAAAACAG GCTCATTGCC GTTTTATCC TTGTAATAAT AGATATTATC CACTATTAAC	3660
ACCTCTTCCT AATAACAATT ATAACCTAAA AGTTATTGTT TGTAAATACT TTAAAGTTAT	3720
TAAATAAAA AGCACCTAGT TTCCTAGATG CTAGCACAAAT GACACGGATT CGCACCGTGG	3780
CTACCTCTAT CAAGGTGTAC TCCTTCTATA CTATCCCTTG TGCTTTAGAA TATTATACCA	3840
CACAATCAAC TAGATACCTA CCATCTCATG ATATACCCCC ATTTTGGGCA AGGGTACAAC	3900
GCTAAAATAC AAATCAGAAT AGATATTAAA CCACTTATTT AACTTATCAT AAGCTGGTGA	3960
TTGACTGATA AATAATATCC GCTGACAAGC TCCGATAACA TTCATGTGAT TGTACACATA	4020
AACCTCTTTT ACAGCTCTA AAATGTCAGC CTCACCTGTT TGTACCCATA TATCTGTTAT	4080
CTGCTTGATA GTTGCCTATT TTTGATAAGC TAGCATATCT TGATTTTTCAG CAGCATCAAA	4140
CATTTTACGC TCAAGGACAC TATACTTAGG TTGTTCTTTA TCTCGCATGA AATACCACTT	4200
GAGCCATAAA ATCTTTTCTC GGTGTATTAC AGAAATACGC TCAATTTTCT TCTTTGTCAT	4260
TGCTACCTCC TAAATCATCA ATTTAACAAT TCTAACCACCT CACTTTTAGA AATAGTTGCA	4320
TAGATCTTGT TCGATGTAIG ATACAAAGGT TCTAAATCTT TTTCCACCCT AATATAGTTC	4380
ATCTTATCCT CATGAGTAGG AAAGTATAGT ATTTCCGTTT CATCCTCGTT TAGGATACGA	4440
TTGCACCAAT CATCAATAAT AACTGGCACT TCCCACTCAC GCCATTTTTT AAGGTTTTCT	4500
AAAAGTTCAT TATCACTAAA TAGCTCGCCA TCTATTTGGA AAAATTCCCC TAAGTCATTG	4560
TTTCCTTCAA CAATAATAAA CTCTGGCATA TTTCTATTAC TTAATAACTC CTGAGTTCT	4620
TGTAACCTTT TGATTTCTTT TAGATACTTC CTCAAATTC CAACTCAATT CTTCAATCTG	4680
CCTTACTACT CCAAAAATTT CATGGGTCTT ATAAGATTGT TCAAGTATAG CCTTTGCTGC	4740
TTGAGTTCTT ATAAACGGGT TGACCTTACT GTCCATCATA ATATCATTGA GTACAGAAAC	4800
AGCGTTAGAT GATGCTAAAT AAAGCATTTG AGTTGTTTTC TCCATCATCT CATCTTGCTT	4860
TATCCTCAAT GTCTTTTAA CCGCTGCAAC TTTTAGATAC TTATGACCTG TTGCGCGTGA	4920

312

TACCCCTGCT TTTTGACATG CTTTGTCTAT CGTTGGCTCG GTAAGCATGG CATCTATGAA	4980
TTTAATTTGC TTGGACGTAA GGTTATCATT TTCATTTCTT GCCATCTATT ACCTCCTCAT	5040
TATCAAAATA AAGGGTTGCC CCTTTATTTC CCTATGCTAG ATAATCTGTC AATTCTGCAT	5100
CCATTCGCTC TGAATTGCCC TCAACAATCA TTTTCATGCTG TACTAAATCA ATCTTATCTC	5160
CGTTAATAAG TAAACCACCG TGGAAATAAT CAATTTTCTT ATCAAGGAAA TGTACTAGCT	5220
TTTCAAGGCG TTGCTGTGG CTGAATTGCT CCATGTCAAT TTCGATATAA GCAAGGGTAG	5280
TATCATTATC CATAATATCT TCTAATTTTC TAAGAGCTAG AGGTTTATTT TTATATTTTT	5340
CTAGGTATTC TCTCATTTCT GCCACTGTTA ATTTGATACT AGATAATAAA CTTAGTTCAG	5400
CTGCATCATC TGCTGTAATA GGCTCTTCTT TTGATTCATG GTTTGCTAGT TCAGCATTTT	5460
TCTCTTTTTC TAGTTGCTGA TACAATAGCT GAGCAGTATT TTGGGAATAG TTTTCGCCCT	5520
CTTTTATA TTTTAAAGT TCTTGCTCTG CATACACTTT CCCGATAATC ACTTCCTTAT	5580
AAACTAATTG CCCATCTTGA GCTTTTAGCT TAATACTCCC ATGCTCTGGA ATTTCAATAT	5640
ACTTAATTAT ACCATTTTTT GAGTATAAAA CAAAGCCTTT CTCCATCATT TTTAATAATT	5700
TATCATCCIT GTTTTCAGTC ATGCTTTTCT CCTTTATTTC ATTTTATTAT AATCTGAATA	5760
CCCCTAGTCT ATTTATTTCA CTAGGTTTTT AGGGTTCGTA TGCTAAAATA CTACCCTTTT	5820
TGTGTACCTT ATGGCTGACT TTTCAAATTG GTTAGTT	5857

(2) INFORMATION FOR SEQ ID NO: 29:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 10254 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: double
 - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 29:

AAAATGATAG CAGGAGAGTT TTCCCGTCCA TCAGACCCAG AACTGAGAGC CTTAGCTCAG	60
GCTTCTCGCC AAAACAGGC CGCCTTTAAC AAGGAAGAGA ACCCCTTGAA GGGAGCCGAA	120
ATCATCAAGA CTGCTTTGTC CTCAACCGGG AAAAATCTTT ACATCAACAC TCGCTTGATG	180
GTGGACTACG GTGTCAACAT CCATCTAGGG GAAAATTTTT ATTCCTAATTG GAACTTGACC	240
ATGCTGGATA TCTGTCCCAT TCGTATCGGG GACAATGCTA TGATTGCTCC TAATTGTCAG	300
TTTTTGACAC CCCTCCATCC ACTAGATCCA CAGGAACGCA ATTCAGGTAT CGAGTACGGA	360
AAGCCTATCA CAATCGGAGA TAATTCTGG ACTGGTGGTG GCGTCATTGT CCTTCCTGGA	420
GTGACACTGG GAAATAATGT CGTTGCAGGA GCAGGGGCAG TAATTACCAA ATCTTTTGGC	480

313

GACAACGTTG TCCTAGCTGG CAATCCTGCG CGCGTGATTA AGGAAATACC TGTAAATAG	540
AAGTAAAAAG GAACAGCTGG GGTGTTTCT TTTTGTAGG TTTTCATCATT TTTTACCCAG	600
TTTACATTTA CCTACTCTAT CTCTTAGCAA GTCTGTTTCA TTAAGCAAGT TCAAAGCATC	660
TCGTAAGTGG GATGTTTTTC TCCTCAGTTC ATCAGCTTCC TCCTTGACAC TCGGTGAGAT	720
TTTGATACAA TAGTACAAAA TTAGAGGAGG CAGGCTATGA TTCAGAAACA TGCGATTCCCT	780
ATTTTAGAGT TTGATGACAA TCCTCAGGCG GTTATCATGC CCAATCACGA GGGGCTGGAC	840
TTGCAGTTGC CAAAGAAGTG TGTTTATCCA TTTTGTAGTG AGGAGATTGA CCGCTATGCG	900
AGGGAAGTAG GGGCGAAGTG TGTGCGCAA TTTGTTTCTG CCACCAAGAC CTATCCAGTT	960
TATGTCGTGA ACTACAAGGA CGAGGAGGTC TGTCTGGCTC AGGCTCCTGT TGGCTCCGCT	1020
CCAGCAGCCC AGTTTATGGA TTGGTTGATT GGCTATGGTG TGGAGCAGAT TATCTCTACT	1080
GGGACCTGTG GTGTCCTAGC TGATATAGAG GAAATGCCT TTCTAGTCCC TGTTCGCGCT	1140
CTGCGAGATG AAGGAGCCAG TTACCACTAT GTGGCACCTT GTCGTTATAT GGAAATGCAG	1200
CCAGAGGCTA TTGCTGCTAT TGAGGAAGTT TTGGAAGACA GAGGGATTCC TTATGAAGAA	1260
GTCATGACCT GGACGACAGA CGGTTTTTAC CGAGAAACGG CTGAAAAGGT GGCTTATCGT	1320
AAGGAAGAAG GCTGTGCTGT TGTGGAGATG GAGTGTCTG CTCTTGCGGC AGTAGCTCAA	1380
TTGCGTGGGG TTCTCTGGGG TGAATGTTG TTCACAGCAG ATTCTCTAGC GGAAGTTGAC	1440
CAGTACGACA GTCGTGACTG GGGCTCGGAA GCTTTTAATA AGGCGCTAGA ACTGAGTTTA	1500
GCAAGTGTTT ACCACCTTTA GTTGTACTGG CAAAGGATTT GTTTTATCAT AAAATGTCTA	1560
GCTCATACTT TTCAAAAATA TGTTTAAACG AGGTCACCTT CCTCTGTGCC TAGGCATGTT	1620
GAGGTTGGCA AAAATCTTTA AAATCAGAAA AACGTATCAT ATCAGGTGAT GAAAAGTTG	1680
ACACTATGCG TTTTATGTCG ATAAGATTTA GAGTGAGATG AAATGATACT CTTCGAAAAA	1740
CTCTTCAAAC CAGGTCAGCT TCACCTTGCC GTAGGTATAT GTTACTGACT TCGTCAGTCT	1800
TATCCGGCAA CCTCAAAACG GTGTTTGTAG CTGACTTCGT CAGTTCTATT TGCAACCTCA	1860
AAACAGTGTT TTGAGCAACC TGTGACTAGC TTTCTAATCG ATGCCTTGGT TTTTATTGCC	1920
TATAATCAAA AAGAGAAAT TTCTCCTGAA AAGCATATAG AGTAGCTGGC GTTAAAAGCT	1980
CCTGTCTTGC TTTTGTGACC TATAGTCACA TCTATCAAGT ATTGTTCTTG CCTAAGCTAT	2040
CAATAAAAAG GTGGCATTTT TTAGGCTTGG TGTAGTAGA TTTTGCCTTA TCCTATCTAA	2100
GTCATTTTCA ACTTTTATG GTACAATGGA AACATGTTAT TCAAAATATC TAAGGAAAAA	2160
ATAGAGCTAG GCTTATCTCG TTTATCGCCA GCGGTCGTA TTTTGTGAG TTTTGCCTTG	2220

314

GTCATTTTAC TAGGCTCTCT TCTTTTGAGC TTGCCCTTTG TCCAAGTTGA AAGCTCACGA	2280
GCGACTTATT TTGATCATCT TTTCAC TGCTCTGCAG TCTGTGTGAC GGGTCTCTCA	2340
ACCCCTCCAG TAGCTCACAC CTATAATATC TGGGGTCAAA TAATCTGTTT GCTCTTGATT	2400
CAGATCGGTG GTCTAGGGCT CATGACCTTT ATTGGGGTTT TCTATATCCA GAGCAAGCAA	2460
AAGCTTAGTC TTCGTAGCCG TGCAACTATT CAGGATAGTT TTAGTTATGG AGAAACTCGA	2520
TCTTTGAGAA AGTTTGCTA TTCTATTTTT CTCACGACCT TTTTGGTTGA GAGCTTGGGA	2580
GCTATTTTGC TTAGTTTTCG CCTTATTCCT CAACTTGGCT GGGGACGTGG TCTTTTAGT	2640
TCCATTTTTC TAGCGATCTC AGCCTTCTGT AATGCCGGTT TTGATAATTT AGGGAGCACC	2700
AGTTTATTTG CTTTTCAGAC CGATTTACTG GTCAATCTGG TGATTCAGG CTGATTATT	2760
ACAGCGGCC TTGGTTTTAT GGTCTGGTTT GATTGGCTG GTCATGTAGG AAGAAAGAAA	2820
AAAGGACGTC TGCACTTTCA TACGAAGCTT GTACTATTAT TGACTATAGG TTGTGTGTTA	2880
TTTGAACAG CAACTACTCT CTTTCTTGAG TGAACAATG CTGGAACGAT TGGCAATCTC	2940
CCTGTTGCCG ATAAGGTTTT AGTTAGCTTT TTTCAAACAG TGACGATGCG AACAGCTGGC	3000
TTTTCTACGA TAGATTATAC TCAGGCTCAT CCTGTGACTC TTTTGATTTA TATCTTACAG	3060
ATGTTTCTAG GTGGGGCACC TGGAGGAACA GCTGGGGGAC TCAAGATTAC GACATTTTTT	3120
GTCTCTTGG TCTTTGCACG AAGTGAGCTT CTAGGCTTGC CTCATGCCAA TGTGCGAGA	3180
CGAACGATCG CGCCGCGAAC GGTTCAAAA TCCTTTAGTG TCTTTATTAT CTTTTTGATG	3240
AGCTTCTTGA TAGGATTGAT TCTGCTAGGG ATAACAGCCA AAGGCAATCC TCCCTTTATC	3300
CACCTCGTAT TTGAAACCAT TTCAGCTCTT AGTACAGTTG GTGTAACGGC AAATCTGACT	3360
CCTGACCTTG GGAATTTGGC TCTCAGTGTT ATCATGCCAC TTATGTTTAT GGGACGAATT	3420
GGTCCCTTGA CCTTGTTTGT TAGCTTGGCA GATTACCATC CAGAAAAGAA AGATATGATT	3480
CACATATATG AAGCAGATAT TAGTATTGGT TAAGAAAGGA AAGAGCATGT CAGATCGTAC	3540
GATTGGAATT TTGGGCTTGG GAATTTTGG GAGCAGTGTC CTAGCTGCCC TAGCCAAGCA	3600
GGATATGAAT ATTATCGCTA TTGATGACCA CGCAGAGCGC ATCAATCAGT TTGAGCCAGT	3660
TTTGGCGCGT GGAGTGATTG GTCACATCAC AGATGAAGAA TTATTGAGAT CAGCAGGGAT	3720
TGATACCTGC GATACCGTTG TAGTCGCGAC AGGTGAAAAT CTGGAGTCGA GTGTGCTTGC	3780
GGTTATGCAC TGTAAGAGTT TGGGGTACC GACTGTTATT GCTAAGCTCA AAAGTCAGAC	3840
CGCTAAGAAA GTGCTAGAAA AGATTGGAGC TGACTCGGTT ATCTCGCCAG AGTATGAAAT	3900
GGGGCAGTCT CTAGCACAGA CCATTCTTTT CCATAATAGT GTTGATGTCT TTCAGTTGGA	3960
TAAAAATGTG TCTATCGTGG AGATGAAAAT TCCTCAGTCT TGGGCAGGTC AAAGTCGAG	4020

315

TAAATTAGAC CTCCGTGGCA AATACAATCT GAATATTTTG GGTTCCTGAG AGCAGGAAAA	4080
TTCCCCATTG GATGTTGAAT TTGGACCAGA TGACCTCTTG AAAGCAGATA CCTATATTTT	4140
GGCAGTCATC AACACCAGT ATTTGGATAC CCTAGTAGCA TTGAATTCGT AAAGAGGGAT	4200
GACCCCTCTT TTTTGATGCC TAAGATGGCA AATAGAGACA GAAGCCCTT GTCTTCTAGT	4260
AAAAGTTCTT CAAAGGCTGG ACTTTATGGT AAAATAGAAA GAAGTGACAA GAGAGAGTAA	4320
TACTCAATGA AAATCAAAGA TCAAAC TAGG AACTAGCTA CGGGCTGCTC AAAACACTGT	4380
TTTGAGGTG CAGATAGAAC TGACGAAGTC AGTAACATCT ATACGGCAAG GCGACGTTGA	4440
CGCGTTTGA AGAGATTTTC GAAGAGTATA AGAAAAATC AGTCCCTAA AGGAGTAGAT	4500
TATGAAGTTA TTGCTATCG CAATTTCTAG CTATAATGCA GCAGCCTATC TTCATTACTG	4560
TGTGGAGTCG CTAGTGATTG GTGGTGAGCA AGTTGGGATT TTGATTATCA ATGACGGGTC	4620
TCAGGATCAG ACTCAGGAAA TCGCTGAGTG TTTAGCTAGC AAGTATCCTA ATATCGTTAG	4680
AGCCATCTAT CAGGAAAATA AATGCCATGG CGGTGCGGTC AATCGTGGCT TGGTAGAGGC	4740
TTCTGGGCGC TATTTTAAAG TAGTTGACAG TGATGACTGG GTGGATCCTC GTGCCCTACTT	4800
GAAAATTCTT GAAACCTTGC AGGAACCTGA GAGCAAAGGT CAAGAGGTGG ATGTCTTTGT	4860
GACCAATTTT GTCTATGAAA AGGAAGGGCA GTCTCGTAAG AAGAGTATGA GTTACGATTC	4920
AGTCTTGCCT GTTCGGCAGA TTTTGGCTG GGACCAGGTC GGAAATTTCT CCAAAGGCCA	4980
GTATACCATG ATGCACTCGC TGATTTATCG GACAGATTG TTGCGTGCTA GCCAGTTCTA	5040
ACTGCCTGAA CATACTTTTT ATGTCGATAA TCTCTTTGTC TTTACGCCCC TTCAGCAGGT	5100
CAAGACCATG TACTATCTGC CTGTCGATTT CTATCGTTAT TTGATTGGGC GTGAGGACCA	5160
GTCTGTCAAT GAGCAAGTGA TGATTAAGTG CATTGACCAG CAACTCAAGG TCAATCGACT	5220
CTTGATAGAC CAACTTGATT TGTCCTCAAGT GAGTCATCCC AAAATGCGAG AATATCTGCT	5280
GAATCATATT GAACTCACGA CGGTGATTTT CAGTACCCTG CTCAACCGAT CTGGAACAGC	5340
GGAGCATCTG GCAAAAAAAC GCCAATTGTG GACCTATATT CAGCAGAAAA ATCCAGAAGT	5400
CTTTCAGGCT ATTCGTAAGA CCATGTTGAG CCGTTTGACC AAACATTCTG TCTTGCCAGA	5460
TCGCAAAC TGCAATGTCG TCTATCAAAT CACCAAATCT GTTTATGGAT TTAATTAATA	5520
TAAGTGTTTT ATAAGAGGGA TTTAAGAAAA ATTTAACTT TTTCTTAGTC CTTTTTAATT	5580
TCAGGAGATT ATACTAGAGT CATCAAATAA AGAAAGACTC TAAGGAGAAT CCTATGAAAT	5640
TCAATCCAAA TCAAAGATAT ACTCGTTGGT CTATTCGCCG TCTCAGTGTC GGTGTTGCCT	5700
CAGTTGTTGT GGCTAGTGGC TTCTTTGTCC TAGTTGGTCA GCCAAGTTCT GTACGTGCCG	5760

316

ATGGGCTCAA	TCCAACCCCA	GGTCAAGTCT	TACCTGAAGA	GACATCGGGA	ACGAAAGAGG	5820
GTGACTTATC	AGAAAAACCA	GGAGACACCG	TTCTCACTCA	AGCGAAACCT	GAGGGCGTTA	5880
CTGGAATAC	GAATTCACCT	CCGACACCTA	CAGAAAGAAC	TGAAGTGAGC	GAGGAAACAA	5940
GCCCTTCTAG	TCTGGATACA	CTTTTGTAAA	AAGATGAAGA	AGCTCAAAAA	AATCCAGAGC	6000
TAACAGATGT	CTTAAAAGAA	ACTGTAGATA	CAGCTGATGT	GGATGGGACA	CAAGCAAGTC	6060
CAGCAGAAAC	TACTCCTGAA	CAAGTAAAAG	GTGGAGTGAA	AGAAAATACA	AAAGACAGCA	6120
TCGATGTTCC	TGCTGCTTAT	CTTGAAAAAG	CTGAAGGGAA	AGGTCCTTTC	ACTGCCGGTG	6180
TAAACCAAGT	AATTCCTTAT	GAATATTCG	CTGGTGATGG	TAIGTTAACT	CGTCTATTAC	6240
TAAAAGCTTC	GGATAATGCT	CCTTGGTCTG	ACAATGGTAC	TGCTAAAAAT	CCTGCTTTAC	6300
CTCCTCTTGA	AGGATTAACA	AAAGGGAAAT	ACTTCTATGA	AGTAGACTTA	AATGGCAATA	6360
CTGTTGGTAA	ACAAGGTCAA	GC'TTTAATTG	ATCAACTTCG	CGCTAATGGT	ACTCAAACCT	6420
ATAAAGCTAC	TGTTAAAGTT	TACGGAAATA	AAGACGGTAA	AGCTGACTTG	ACTAATCTAG	6480
TTGCTACTAA	AAATGTAGAC	ATCAACATCA	ATGGATTAGT	TGCTAAAGAA	ACAGTTCAAA	6540
AAGCCGTTGC	AGACAACGTT	AAAGACAGTA	TCGATGTTCC	AGCAGCCTAC	CTAGAAAAAG	6600
CCAAGGGTGA	AGGTCCATT	ACAGCAGGTG	TCAACCATGT	GATTCCATAC	GAACCTCTCG	6660
CAGGTGATGG	CATGTTGACT	CGTCTCTTGC	TCAAGGCATC	TGACAAGGCA	CCATGGTCAG	6720
ATAACGGCCA	CGCTAAAAAC	CCAGCCCTAT	CTCCACTAGG	CGAAAACGTG	AAGACCAAAG	6780
GTCAATACTT	CTATCAAGTA	GCCTTGGACG	GAAATGTAGC	TGGCAAAGAA	AAACAAGCGC	6840
TCATTGACCA	GTTCAGAGCA	AAyGGTACTC	AAACTTACAG	CGCTACAGTC	AATGTCTATG	6900
GTAACAAAGA	CGGTAAACCA	GACTTGGACA	ACATCGTAGC	AACTAAAAAA	GTCACTATTA	6960
ACATAAACGG	TTTAATTTCT	AAAGAAACAG	TTCAAAAAGC	CGTTGCAGAC	AACGTTAAAG	7020
ACAGTATCGA	TGTTCCAGCA	GCCTACCTAG	AAAAGCCAA	GGGTGAAGGT	CCATTACAG	7080
CAGGTGTCAA	CCATGTGATT	CCATACGAAC	TCTTCGCAGG	TGATGGTATG	TTGACTCGTC	7140
TCTTGCTCAA	GGCATCTGAC	AAGGCACCAT	GGTCAGATAA	CGGTGACGCT	AAAAACCCAG	7200
CCCTATCTCC	ACTAGGTGAA	AACGTGAAGA	CCAAAGGTCA	ATACTTCTAT	CAATTAGCCT	7260
TGGACGGA	TGTAGCTGGC	AAAGAAAAAC	AAGCGCTCAT	TGACCAGTTC	CGAGCAAACG	7320
GTACTCAAAC	TTACAGCGCT	ACAGTCAATG	TCTATGGTAA	CAAAGACGGT	AAACCAGACT	7380
TGGACAACAT	CGTAGCAACT	AAAAAAGTCA	CTATTAACAT	AAACGGTTTA	ATT'TCTAAAG	7440
AAACAGTTCA	AAAAGCCGTT	GCAGACAACG	TTAAGGACAG	TATCGATGTT	CCAGCAGCCT	7500
ACCTAGAAAA	GGCCAAGGGT	GAAGGTCCAT	TCACAGCAGG	TGTCAACCAT	GTGATTCCAT	7560

317

ACGAACTCTT CGCAGGTGAT GGCATGTTGA CTCGTCTCTT GCTCAAGGCA TCTGACAAGG	7620
CACCATGGTC AGATAACGGC GACGCTAAAA ACCCAGCTCT ATCTCCACTA GGTGAAAACG	7680
TGAAGACCAA AGGTCAATAC TTCTATCAAG TAGCCTTGGA CGGAAATGTA GCTGGCAAAG	7740
AAAAACAAGC GCTCATTGAC CAGTTCCGAG CAAACGGTAC TCAAACCTAC AGCGCTACAG	7800
TCAATGTCTA TGGTAACAAA GACGGTAAAC CAGACTTGGA CAACATCGTA GCAACTAAAA	7860
AAGTCACTAT TAAGATAAAT GTTAAAGAAA CATCAGACAC AGCAAATGGT TCATTATCAC	7920
CTTCTAACTC TGGTCTGGC GTGACTCCGA TGAATCACAA TCATGCTACA GGTACTACAG	7980
ATAGCATGCC TGCTGACACC ATGACAAGTT CTACCAACAC GATGGCAGGT GAAAACATGG	8040
CTGCTTCTGC TAACAAGATG TCTGATACGA TGATGTCAGA GGATAAAGCT ATGCTACCAA	8100
ATACTGGTGA GACTCAAACA TCAATGGCAA GTATTGGTTT CCTTGGGCTT GCGCTTGCAG	8160
GTTTACTCGG TGGTCTAGGT TTGAAAAACA AAAAGAAGA AACTAATCA GCTAAGGAAA	8220
TAAATGATGG ATAGTGGGCT GACTAAGATT AGTTTAACAA CTCAATCAGC AATCAGGACT	8280
TTCTTTCAAT AGCAGATTAA AATCATCGTA AAACAATAAA AATAGTGTTA TACTTAAAGC	8340
AGTATAGCAC TGTTTTTATC AAAGGAGAGA CAGATGGGAA AGACAATTTT ACTCGTTGAC	8400
GACGAGGTAG AAATCACAGA TATTCATCAG AGATACTTAA TTCAGGCAGG TTATCAGGTC	8460
TTGGTAGCCC ATGATGGACT GGAAGCGCTA GAGCTGTTCA AGAAAAAACC GATTGATTTG	8520
ATTATCACAG ATGTCATGAT GCCTCGGATG GATGGTTATG ATTTAATCAG TGAGGTTCAA	8580
TACTTATCAC CAGAGCAGCC TTTCCTATTT ATTACTGCTA AGACCAGTGA ACAGGACAAG	8640
ATTTACGGCC TGAGCTTGGG AGCAGATGAT TTTATTGCTA AGCCTTTTAG CCCACGTGAG	8700
CTGTTTTTGC GTGTCCACAA TATTTTGCGC CGCCTTCATC GTGGGGGCGA AACAGAGCTG	8760
ATTTCCCTTG GCAATCTAAA AATGAATCAT AGTAGTCATG AAGTTCAAAT AGGAGAAGAA	8820
ATGCTGGATT TAACTGTTAA ATCATTTGAA TTGCTGTGGA TTTTAGCTAG TAATCCAGAG	8880
CGAGTTTTCT CCAAGACAGA CCTCTATGAA AAGATCTGGA AAGAAGACTA CGTGGATGAC	8940
ACCAATACCT TGAATGTGCA TATCCATGCT CTTGACAGG AGCTGGCAAA ATATAGTAGT	9000
GACCAAACCT CCACTATTAA GACAGTTTGG GGGTTGGGAT ATAAGATAGA GAAACCGAGA	9060
GGACAAACAT GAAACTAAAA AGTTATATTT TGTTTGATA TATTATTTCA ACCCTCTTAA	9120
CCATTTTGGT TGTTTTTTGG GCTGTTCAAA AAATGCTGAT TGCGAAAGGC GAGATTTACT	9180
TTTTGCTTGG GATGACCATC GTTGCCAGCC TTGTCGGTGC TGGGATTAGT CTCTTTCTCC	9240
TATTGCCAGT CTTTACGTCG TTGGGCAAAC TCAAGGAGCA TGCCAAGCGG GTAGCGGCCA	9300

318

AGGATTTTCC TTCAAATTTG GAGGTTCAAG GTCCTGTAGA ATTTTCAGCAA TTAGGGCAAA	9360
CTTTTAATGA GATGTCCCAT GATTTGCAGG TAAGCTTTGA TTCCTTGGAA GAAAGCGAAC	9420
GAGAAAAGGG CTTGATGATT GCCCAGTTGT CGCATGATAT TAAGACTCCT ATCACTTCGA	9480
TCCAAGCGAC GGTAGAAGGG ATTTTGGATG GGATTATCAA GGAGTCGGAG CAAGCTCATT	9540
ATCTAGCAAC CATTGGACGC CAGACGGAGA GGCTCAATAA ACTGGTTGAG GAGTTGAATT	9600
TTTTGACCCT AAACACAGCT AGAAATCAGG TGGAACTAC CAGTAAAGAC AGTATTTTTC	9660
TGGACAAGCT CTTAATTGAG TGCATGAGTG AATTTCAGTT TTTGATTGAG CAGGAGAGAA	9720
GAGATGTCCA CTGTCAGGTA ATCCCAGAGT CTGCCCCGAT TGAGGGAGAT TATGCTAAGC	9780
TTTCTCGTAT CTTGGTGAAT CTGGTCGATA ACGCTTTTAA ATATTCTGCT CCAGGAACCA	9840
AGCTGGAAGT GGTGGCTAAG CTGGAGAAGG ACCAGCTTTC AATCAGTGTG ACCGATGAAG	9900
GGCAGGGTAT TGCCCCAGAG GATTTGGAAT ATATTTTCAA ACGCCTTTAT CGTGTGAAA	9960
CTTCGCGTAA CATGAAGACA GGTGGTCATG GATTAGGACT TGCATTGCG CGTGAATTGG	10020
CCCATCAATT GGGTGGGGAA ATCACAGTCA GCAGCCAGTA CGGTCTAGGA AGTACCTTTA	10080
CCCTCGTTCT CAACCTCTCT GGTAGTAAA ATAAAGCCTA AAACCCCTTT ACAAATCCAG	10140
CTATTCATGG TAGAATAGAT TTTGTGTGAA ATATCAGCAG GAAAGCATGA AGCTCGTCAA	10200
CAGGTGTCTT ATGACAAGTA ACCTTGGCTG TTTAGGCGAA GGGCATCTGC ACGG	10254

(2) INFORMATION FOR SEQ ID NO: 30:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 9769 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: double
 - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 30:

CCGGCGACTA TCGATAACAC TTGACTTGGT AGCCCCACAT TTTGGACAAC GCATCCTTTC	60
CCTCCTTATC GTTTCTTTT CATTATACCA TTTTTTAAGC GATTCCTAAA ACAATTCTTC	120
TTTTTGCTTG ACAAGTTTT TGTTTTGTG TATTATTTAA TTAAGACAAC AAGGTAAAAG	180
AAAGGAGACT AAGATGTCCT GGACATTTGA CAACAAAAA CCCATCTATT TACAGATTAT	240
GGAGAAAATC AAGCTTCAGA TTGTTTCCCA TACACTGGAA CCAATCAAC AACTTCCAAC	300
CGTGAGGAGC TAGCTAGCGA GGCTGGTGTC AATCCCAATA CCATCCAAAG AGCCTTATCA	360
GACCTTGAAC GAGAAGGATT TGTCTACAGC AAGCGAACA CTGGACGATT TGTGACTAAG	420
GATAAGGAGC TAATCGCCCA GTCACGCAAA CAATTATCAG AAGAAGAATT GGAACACTTC	480

319

GTTCCTCCA TGACCCATTT TGGCTATGAA AAAGAAGAAC TACCAGGCGT AGTCAGTGAT	540
TATATTAAG GAGTTAAGC CTATGTCATT ACTAGTATTT GAAAATGTAT CCAAATCATA	600
TGGAGCAACA CCAGCCCTTG AAAATGTTTC TCTTGACATT CCAGCTGGAA AAATTGTCGG	660
CCTTCTTGGG CCAAACGGCT CAGGAAAAAC AACCTGATT AAATAATTA ATGGCCTCTT	720
ACAACCAGAT CAAGGACGTG TCCTCATCAA CGACATGGAC CCAAGCCCAG CAACCAAGGC	780
CGTTGTAGCT TATTTGCCTG ATACGACCTA TCTCAATGAG CAAATGAAGG TCAAAGAAGC	840
CCTAACCTAC TTCAAGACCT TCTATAAAGA TTGTCAGATC TTGAACGCGC CCATCATCTA	900
CTTGACAGCC TGGGCATTGA TGAAAATAGT CGTCTCAAGA AACTATCAAA AGGAAACAAA	960
GAAAAGGTTT AACTGATTTT GGTATGAGC CGTGATGCTC GTCTCTATGT TTTGGACGAA	1020
CCCATTGGTG GGGTGGATCC AGCAGCCCGT GCTTATATCC TCAATACCAT TATCAACAAC	1080
TACTCACCAA CTTCTACCGT TTTGATTTCT ACCCATTGA TTTCTGATAT CGAGCCAATC	1140
TTGGATGAAA TTGTCTTCCT AAAAGACGGA AAAGTCGTCC GTCAGGAAA TGTAGATGAT	1200
ATTGCTACG AGTCAGGTGA ATCCATTGAC CAACTCTTCC GTCAGaTTT AAGGCCTAAG	1260
CAAAGGAGAT TATTTATGTT TTGGAATTTA GTTCGCTACG AATTTAAAAA TGTTAACAAG	1320
TGGTATTTAG CCCTCTACGC AGCCGTGCTA GTCCTTTCTG CCCTCATCGG AATACAGACA	1380
CAAGGCTTTA AAAATCTACC TTACCAAGAA AGTCAGGCTA CTATGCTACT TTTTCTAGCT	1440
ACAGTCTTTG GTGGCTTGAT GCTTACACTT GGGATTTCAA CCATTTTCTT GATTATTAAA	1500
CGCTTCAAAG GTAGTGTCTA CGACCGACAA GGCTATCTGA CTTTGACCTT GCCAGTTTCT	1560
GAACACCATA TCATCACAGC CAAACTAATC GGTGCCTTTA TCTGGTCATT GATTAGCACC	1620
GCTGTATTGG CTCTAAGTGC TGTATTATT CTGGCTTTAA CAGCTCCAGA ATGGATTCCT	1680
CTTCTTTATG TGATTACATT TGTAAGAAAC CATCTCCCTC AGATCTTTCT TACAGGTATA	1740
TCCTTCCTAC TAAATACTAT TTCAGGAATC CTCTGCATCT ACCTGGCTAT TTCCATTGGA	1800
CAGCTTTTCA ATGAATACCG TACAGCACTC GCTGTTGCAG TCTACATTGG TATCCAAATC	1860
GTCATTGGAT TTATTGAACT TTTCTTCAAT CTAGTTCTA ATTCTATGT CAATTCACTG	1920
GTAGGACTCA ATGACCATT CTATATGGGA GCAGGTATAG CCATTGTTGA AGAACTCATA	1980
TTCATAGCTA TCTTTTATCT CGGAACCTAC TACATCTTGA GAAATAAGGT TAATTTGCTT	2040
TAAATAATTT TTACCTAGAT ATGTAACATA CTCATAGAAC AAAAGAGACC AGGCAAAAAG	2100
TCTTTAAAT TAGAAAACGC ATAGTATCAG GTGTTGAATA TGTACTGCC CCCAAAAGTT	2160
AGATTTTTC TGTCTAAGCT TTGGGGGCAG TTCATAAGAA CCTTGGTAAT ATGCGTTTTC	2220

320

TGTGAGCTGA CTTATTTCCT TTCACTATAT CGCAAAATGA AATAAGAACG GAACGATGGG	2280
ATTTTGGAAT TCAAATCAAT TTATAAGAAT GTTTTAGAAG TAATATTATC CTATTCCAGA	2340
TTCAGTTCAC TATACAATTG AGTTTTCAAG CAACCTGTTT ACATAATGTG TACATAATTA	2400
GGTTCGTGAT TCCACCCTTT TCACCTTTAA AACCTCGCT TTCGCAAGGC TCTTCTATTT	2460
ATAAGATAAG GCACGTTTAA AGGTTTCCA AATCCCTAAA TCATCCGTTT GAAGAACGAG	2520
ACTAGCATAC ATGCGTCCGA TAAATCCTGT TGCTACCACC GCAAAATCA CTGTAATAGC	2580
AAGTGAAATC CATGCTTCTG CTCCCCCGC ATAGTCATTA ATCGTTCGAA ACGGCATAAA	2640
GAAGGTCGAA ATAAAGGGAA TATAAGAAC AATCTTCAAG AGGAGATTGT CACCAGCTGC	2700
ACCTAGAGCT GTCACTCAA AAAAACCACC CATAATCAA ATCATCAAAG GCGACAAGGC	2760
TTTCCCTGAG TCCTCAGGAC GAGAAACCAT AGATCCTAGG AAGGCTGCCA AGACTACGTA	2820
CATGAAAAGA CTGATCAAAA TAAAGAGCAA GGTATTCAGT GAGATAGCAT CTCCAAGTG	2880
ATCCAAAATA CCAGACTGAG CCAAGAATGG CAAATCTTA AAGAGCAAAA CGGCAGCCAG	2940
ACCACCTACA ACATAGATCC CAATATGCGT TAAATCACT AGAAACAGAG CCATCATCCG	3000
CGCATAGAAA TAGTGACTTG CCCTTATGCT AGAAAAACG ACTTCCATAA TTTTGCTGCC	3060
TTTTTCACTG GCAACTTCCT GAGCTGTTAC ACCCGCATAG GTAATCAGAA TCATATAAG	3120
AAAGAATCCT AAGGCACCTG CTGCAATTGT TTGAATAAAC TTTTATTTT CCTTGGCTTC	3180
ATCAATCTTT TCTGTGAATT GAATTGTCTG CGCTAAGCGT TTTTCCTGCT CTGAGACAA	3240
GGAAGCAGTT GAACGATTAA GCTGATTTG CAGTTCATTG AGTGACCTG TAACCTCAA	3300
TTTAATTCCA TTTTCAAGCG ATGTTTCGCC ATGATAAACT GCCTTTAGAA CACTATCTTC	3360
TTGATCAATG GTCAAATAAC CTTTAAATTT TTCTTCTTA ATTGCTTCTT TGGCACTTGC	3420
TTCGTCTTTA TAGTCGAAGT TAACACCAT TACATTCTTC AGTCCTTCTG CTACAGATGG	3480
CACTGTTGTC ACTACTGCCA CTTTATTATT TTTAGCCATA GAAGAACCTT GGAGATGCCC	3540
AATTCCTACA GAGATTCCTA AAAAGAGGAA CGGCGAAATC ACCATAAAGA AGAACTCCA	3600
TGACTCGACA TGTCGAAGAT AGGTTTCCTT GATTACAACC CACATATTTC TCATACTTCC	3660
ACTCCTGATT CTAGTTTAAA GATTTCATCG ATAGTTGGCG CTTGTTGGTC AAATGTTGCG	3720
ATATATTGAC CTTGAGTCAA GATTGAGAAG AGTTCCTTC CAGCGCTCTC ATCCTCCAAA	3780
ATCAATTTCC AACTGCCCTG TTTGGTCAAG CTCACCTGTT TGACATGAGG AAGATTTTCC	3840
AATTCCTCCT TGCTTCGTT ACTTGAAACA AAGAGACGCG TTTCCCGTA TTGATTGCGG	3900
ACATCCTGAA CTGGTCCGTG CAAGACCACA CGGCCATCTC GGATCATCAG AATATCCTCA	3960
CAAAGTTCCT CAACATTGGT CATGACATGG TCAGAAAAGA TAATGGTTGT CCGCGCTCTT	4020

321

TTTCCTGAAA AATGACTTGT TTGAGCAATT CTGTATTAAC TGGGTCCAAT CCACTAAAAG	4080
GCTCATCCAA GATAATCAGG TCTGGTTCAT GAATCAGAGT AATAATGAGC TGAATCTTCT	4140
GCTGATTTC TTTTGACAGA CTCTTGATTT TATCTGTCAG CTTTCCTTTC ACTTCCAACC	4200
TCTTCATCCA TTGAGGGAGT TTTTCTTTGA CTTCTTTGGC ATCCATGCCT TTTAGAGTCG	4260
CCAAGTAGCG AACTTGTTCA AGAACTGTCA ATTTAGGCAT GAGATGCGTT CTTCAGGCAG	4320
ATAACCAATC CGAGCATAGG TCTCCTGACG AATATCCTGA CCATCCAGAC CGATTCTCTC	4380
CTGATATTCT AGGAATTTCA AAATACTATG GAAAATCGTT GTTTTTCAG CACCATTTTT	4440
TCCGACTAGT CCCAAAATAC GACCTGGTCG CGCTTGAAAG TCAATACCA ACAAACCTTG	4500
CTTGATCCA AAACTTTTCT CTAGACTTCT TACTTCTAGC ATCTTTCACC TCCGAAATTT	4560
CTTGACATCA TTATACTCCT TTTTGATAGC CTTTACAATG TTTTGTGTC ATTTTTCAG	4620
GAATATTGCT GTGTAAAATA TGGCCTGGAG CACTTTTATA CTCAATGAAA ATCAAAGAGC	4680
AAACTAGGAA GCTAGCCGTA GACTGCTCAA AGTACAGCTT TGAGGTGCA GATAAACTG	4740
ACGAAGTCgA CTCAAAACAC TGTTTTGAGG TTGTGGATAG AACTGACGAA kCrTAaCTAT	4800
ATCTACGGCA AGGCGAAcTG ACCTGGTTTG AAGAGATTTT CGAAGAGTAT TAGTGATAAA	4860
TCCATTATAC AGCAGCAAAC TTAATTTATA CCTCCGCTC CTCAACTGTC TATTTTAAAT	4920
CCTGAATTGT TATTTGAGTA ACTCCTTTTT CCTCGTAAAG TTTTCTTCCT CTAACCTTC	4980
TGGAATAAGG CTAATAGTTT CAGACAACAT TTTTATAAGA AACAGTTCA TCTGTCATTT	5040
CAAGAAGGAG TAATCCTTTA TCTACTAATG GACGGAACAG AATTCAACCG CTGTCCGAT	5100
ATGTTTCTA AGGATTATAT AGTAAATGA AATAAGAACA GGACAAATG ATCAGGACAG	5160
TCAAATTGAT TTCTAACAAT GTTTTAGAAG TAGATGTATA CTATTCTAGT TTCAATCTGC	5220
TATATCTATT ATGCACACCC CTATAGGATC TAATGAAAAT CACAACAGGC TCATTCTAG	5280
ATGGTTACCT AAGCCTAAGG GAACTAAGAA AACGACTACC AAGGAAGTCG CATTCTCGA	5340
AAAGTAGATT AACAACTATC CTAAAAATG CTTGAACTAC AAGTCCCCA GAGAAGACTT	5400
CTGGATGACT AACTGAACT TGAAATTTAG CAATAATTAA TTCATATCT AACTATATTT	5460
AGTAATTATT TCAGAACTGA TTAATATTAA AATTAACTAA CAATTCAAAG GATTCTACT	5520
AGCCATAAAT TACGTCCATC AGAGAGAGAC TCTTACTACT TTTAGATTT AGTCTTCTA	5580
GCTTCAGAAT ACATCTAAC TTTAGGGAAA ATGACTATTC GAAAGCGCGA ATGCCTCAA	5640
ATTATCTCAG ATAAGCTATT CGAACTTAG AATGCTTTTA AATTTATGGA ATTGCGATTA	5700
TTCGAAACCT AGAATGCATA TAACCTTTAG TTGACAGACC TATTCTAAGT CTCGAAGGGC	5760

322

TATTTACTTT CTATTCCTTA TCAAAAAAGA CTCATTCCCC CTTTCTCCTC CAAAATATGG	5820
TATAGTAGAA ATATACTATC TATGAGGAGT TTACATGTCA CAGGATAAAC AAATGAAAGC	5880
TGTTTCTCCC CTTCTGCAGC GAGTTATCAA TATCTCATCG ATTGTCGGTG GGGTTGGGAG	5940
TTTGATTTTC TGTATTTGGG CTTATCAGGC TGGGATTTTA CAATCCAAGG AAACCTCTC	6000
TGCCTTTATC CAGCAGGCAG GCATCTGGGG TCCACCTCTC TTTATCTTTT TACAGATTTT	6060
ACAGACTGTC GTCCCTATCA TTCCAGGGGC CTTGACCTCG GTGGCTGGGG TCTTTATCTA	6120
CGGGCACATC ATCGGGACTA TCTACAACTA TATCGGCATC GTGATTGGCT GTGCCATTAT	6180
CTTTTATCTA GTGCGCCTAT ACGGAGCTGC CTTTGTCCAG TCTGTCGTCA GCAAGCGCAC	6240
CTACGACAAG TACATCGACT GGCTAGATAA GGGCAATCGT TTTGACCGCT TCTTTATTTT	6300
TATGATGATT TGGCCCATTA GCCCAGCTGA CTTTCTCTGT ATGCTGGCTG CCCTGACCAA	6360
GATGAGCTTC AAGCGCTACA TGACCATCAT CATTCTGACC AAACCTTTA CCCTCGTGGT	6420
TTATACCTAC GGTCTGACCT ATATTATGA CTTTTTCTGG CAAATGCTTT GACACGTAAA	6480
AAATCCGTTT GGTTCCTCAA GTGGATTTT AAAGCGTAGA TTAACATAG CTTGATACTA	6540
AATATACTTT GGTATGAAA TCATGCATAT TTTTCGATAG TGAGGCGAGG ACTTACCTAG	6600
CCTTTCCGCC GTGATAGAAA CACCTGAAAT CTAATGGTT CAGGTATTCG GAAACTTTGA	6660
GCCTAGTGTC TCAAAGTTTA GGTATGGAAT TTTGAAGAAA GTCGCTACCG TCCGTAATCA	6720
CTTAAGGAAA GGCTCAAAAA TATTGTTTTT AACCACAAAA TCCGTTTGGT TTCCCAAGCG	6780
GATTTTGTGC TTTATTTTGA AACTTCTTTT GCAAGAACAA AGTTCCTAAG TGTGGCAGAA	6840
CCATTTCCTG CGACTGCTGG CGTCACGATA TAGTCACGCA CATCTGGTAC TGGTAGGTAA	6900
CCATTAAGAA GAGATGTAAA TTTCTCACGG ACACGGTCCA GCATATGTTG TTGAGCCATG	6960
ACCCCTCCAC CAAAGACAAT CACGTC'TGGG CGGAAAGTCA CTGTCGCATT AACCGCAGCT	7020
TGAGCGATAT AGTAGGCTTG AACATCCCAA ACAGGGTTGT TGAGTTCAAT AGTTTCCCCA	7080
CGTACACCTG TACGAGCTTC CAACTTGGA CCAGCTGCAT AACCTTCTAG ACATCCCTTA	7140
TGGAAAGGAC AAACACCTT AACTCTTTT TCAATATCCA TTGGGTGTCT AGCAACATAA	7200
TAATGACCCA TTTCAGGGTG ACCCACACCA CCGATAAACT CACCACGTTG GATGACGCCT	7260
GCACCGATAC CTGTACCGAT TGTGTAGTAA ACCAAGTTT CGATACGACC ACCAGCATTG	7320
TTACGGGCAA CCATTTACAC GTAAGCAGAG CTGTTTACGT CTGTTGTGAA GTACATTGGC	7380
ACGTTTAGGG CGCGACGAAG GGCACCAAGC AAGTCTACAT TTGCCAGTT TGGTTTGGGA	7440
GTCGTCGTGA TAAAGCCATA AGTTTTGAG TTTTGTCAA TATCAATCGG CCCAAATGAA	7500
CCAAGTCAA GACCAGCAAG GTTATCGAAT TTTGAGAAGA ACTCAATGGT TTTATCGATT	7560

323

GTTTCGATTG GAGTTGTGT TGGAAATGT GTTTTTCTA CAACGTAAA GTTTTCATCA	7620
CCGACAGCAC AGACAACTT TGTACCGCCC GCTTCCAAGC TTCCATATAA TTTTGTCAATG	7680
ATAAACCTCT TGTTTTTATT TTCTTTATTA TAGCATACTT CGAAAGTCTA AATGTCTCTA	7740
TTTTTTAGAT TTTCTCTGT AAATCTTACT ATCTAATAAA AACGAACAAA CATGTCATTT	7800
GTTTCGTTTTC ACATTAGAGA GGATTGATTA GATTTTCACT TCGATCACAG CATCCCCCTT	7860
AGCAACTGAA CCTGTTGCGA CTGGAGCTAC TGAAGCGTAG TCACCTGTAT TTGTAACGAT	7920
AACCATTGTT GTATCATCAA GTCCAGCTGC AGCGATTTTG TTTGAGTCAA ATGTTCCAAG	7980
AACATCGCCA GCTTTCACCT TATTACCTTG AGCAACTTTT CTTTCAAAAC CGTCACCGTT	8040
CATAGATACA GTATCAATAC CAACATGAAT CAAAACCTCA GCACCATTTT TGTTTTTCAA	8100
ACCAAAAGCG TGCCCTGTTG GAAAGGCAAT TGAAACTTCA GCATCAGCTG GTGCATAGAC	8160
CACGCCTTGG CTTGGTTTCA CAACGATACC TTGTCCCATTA GCTCCACTTG AGAAGACTGG	8220
GTCATTGACA TCAGCAAGAG CGACAACATC ACCGACGATA GGAGTTACAA GTGTTTCATT	8280
TTGAAGAGCT GCTGGCGCAA CTTCTTCTTT TTCTTCAGCC ACTTCAGCTC GTTTTGCAGC	8340
TGCAGTTGCG TCTACTTCAT CTTCTGTAACC AAACATGTAA GTAAGAGCAA AACCAAGGGC	8400
AAATGATACA GCTACCATAA GAAGGTATTG TGGAAGTTGT CCGTTACCAA CATAAAGCAT	8460
TGTACCAGGG ATGATGGTGA TACCATTACC AGTACCAGCA AGTCCAAGGA TAGAAGCCAA	8520
TCCACCACCG ATTGACCAG CAATCAATGA AAGGAAGAAT GGTTTACGGA AGCGCAAGTT	8580
CACCCCGAAG ATAGCAGGCT CTGTAATACC TAGGAAGGCA GAAAGAGCAG CCGGGAAAGC	8640
AAGTGTTTTT AGTTTTGGAT TTTTGTGTTT AACACCAACC GCAACAGTAG CAGCACCTTG	8700
AGCTGTCATA GCAGCTGTGA TGATAGCGTT GAATGGGTTA GCATGGTCAG CAGCAAGTAA	8760
TTGCACTTCA AGCAAGTTGA AGATGTGGTG CACACCTGAC ACGACGATCA ATTGGTGAAC	8820
CCCACCAATC AAGAAACCAC CAAGACCAAA TGGCATGCTA AGAATCGCTT TTGTAGCAAT	8880
AAGGATGTAG TTTTCAACAA CGTGGAAAAC TGGTCCAATG ACAAAGAGTC CAAGGATAGA	8940
CATGACCAAA AGTGTCACGA ATGGTGTTAC CAAGAGGTCA ATGACATCTG GAACAACCTG	9000
CGGACAGCTT TTTCAAATTT AGCTCCGACA ACCCCGATGA TGAAGGCTGG AAGAACGGAA	9060
CCTTGCAAAAC CAACAACAGG GATGAAACCA AAGAAGTTCA TCGCTGTTAC TTCACCACCT	9120
TGAGCAACTG CCCAAGCGTT TGGAAGTGAG CCAGAGACAA GCATCATACC AAGAACGATA	9180
CCAACGGCAG GATTCCACC AAATACACGG AAGGTTGACC ACACAACCAA ACCTGGCAAG	9240
ATGATGAAGG CTGTATCTGT CAAGATTTGT GTGTAAGTTG CAAAGTCACC TGAAGTGCC	9300

324

ATTTCAAGAG CGTTGAAAAG ACCACGCACA CCCATGAAGA GACCTGTCGC TACGATAACT	9360
GGGATGATTG GAACGAAAAC ATCACCAAAA GTACGGATAG CACGTTGGAA CCAGTTCCCT	9420
TGTTTAGCAA CTTCTGCTTT CATGTCATCC TTAGATGATG TTGGTAATCC AAGTACAACA	9480
ACTTCATCGT ACATTTTGT TAACTGTACCT GTACCAAAGA TAATTTGGTA TGCCCTGAG	9540
TTAAAGAAAG CACCTTGAAC TTTTCCAAG TTCTCAATCA CTTCTTTAT TATTTTCTCT	9600
TCATCTTTGA CCATGACACG TAGACGAGTC GCACAGTGGG CAACACTATT GACATTTTCA	9660
CGTCCGCCCA AGGCATCGAT GACTTTTTTT GCAATTCCT GATTGTTTAT TTGCAAAAAT	9720
CTCCTTATAT AACATTTTGT TCTTGTTTGA AAGCGATTTT ATTCGCCGG	9769

(2) INFORMATION FOR SEQ ID NO: 31:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 3149 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: double
 - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 31:

CGCTTGAGTG CTAATTCATA GTTCTATTGT ATCACTTGGT CAGAAATAAT CAAGAAAAAA	60
GTCTGACTTT CTCAAGATAA AAAGCCTGAG ACCAACTCAG ACTTTTAAAT TCTTAAATG	120
GCAATTCTTC CTCTCCAAG ACCAAATCTG CCAAACTTG GCCTGCATTA TTTTCACGCA	180
TAGCACGTTG GGCACGACTT TCCAAGAGTT GGAATCCTGT GACAAGTACT TCGGTCACGT	240
AGTTCATTTG GCCATTTTTC TCAAAGCGAC GGGTACGCAA TTCTCCATCA ACGGAAATGA	300
GACTACCTTT GGTTCGGTAC TTGCCAAAGT TTCTGCTAGT CTGCCCCATA GGACCATATT	360
GACAAATCA GCTTCACGTT CACCGTTTGT GTCTTTGTAA CGACGGTTCA CAGCGATAGT	420
TGCTCGCGCT ACCGACTTGT CATTGTTGGT TTTGTGCAAT TCTGGTGTAG ACGTTAAACG	480
TCCAATCAAG ATAACCTTAT TATACATATT TTCTTCCTCC TACTTATCTA TTCGTAGGAA	540
ATCAAAAAA GTTACAGAAA TTTGTAACCT TTGAGAAAA TTTTATTTT TTTATGAACC	600
ATGAAACCTG TCGCCTGTTG ATTGGCCATA ATGGTCATAT CTGTAATCTG AACACGACGA	660
GGTTGACTAG TCACATAGAC TACTGTATCT GCAATATCCT GAGCTTGCAA AGCTTCTATT	720
CCTTGGTAAA CGGACGCAGC TCGTTCCTTA TCACCATGAA AACGCACTGT AGAAAAATCT	780
GTTCGACAA TTCCAGGCTG AATGGTCGTC ACCTTGATAT CCGTTGCGAT GGTATCAATT	840
CGCAGTCCAT CTGAAAAGGT CTAACTGCC GCCTGGTGG CTGAGTAAAC AGCTGCACCA	900
GCATAGGCAT AAATTCCTGC GGTGACCCC ATATTGATAA TATGACCTTG ATTGGCTTTT	960

325

ACCATTGCTG GCAAGAAACA GCGAGTGA CTTCATCAAAC CTTTGACATT GGTATCCAAC	1020
ATGGTCAGCA TATCCAAC TCATAGTCT TGATAGGGAG CTAAGCCAAG AGCCAGTCCT	1080
GCGTTATGA CCAGGATGTC AATCTGACCT ATCGTTTCTA AAATATCAGA GCAGACAGTC	1140
TTTACCATTG TCATATCCGT GACATCTAGG AGAAAAGTCC AAAGTGTGTTG ATTTGGAAAA	1200
GTTTCTGCAA ACTCCGCCTT AAGAGCTTCT AGTCTGTCTA TCCGTCGTCC TGTTAGAACG	1260
ACATCCTCAC CCTGCTCCAG ATAAGCACGC GCAATCGCTT CACCGATTCC TGATGTCGCT	1320
CCTGTAATCA CAACATTTT TGCCATCTTA TTTCCTTCTA GCTGGTCTAT CAGATATTAA	1380
CAACTTCTTA GGCAGTCCAG TGTTCGCTG GGTGGAACGG TGTTCGACA ACTTGGTCTT	1440
CTGATAATTC AAGCACCCCA CGTTTGTG GAGCATTTGG CAGATGCAAT TCACGAGGAC	1500
TGCACATCAT ACCAAAATC TTTTCACCAC GAAGTTCACC TGGGAAAATG AGATTCCCTT	1560
TTGGCATCAT AGCTCCAGGA AGCGGACAA TGGTTTCAA CCCCACACGC GCATTGGGAG	1620
CTCCTGCAAC GATTGTGACA GTCTTATCAC TTGCGACTGC AACTTGGCAG ATGTTGAGGT	1680
GGTCACATATC TGGATGGGCT ACCATCTCAA CAATTTACC TACAACAAAC TTAGGTTCCCT	1740
TATCATTAAC AATTTCTTCT GTAAAACCTT CCGCCTGCAA CTCTTGGTTC AAACGAGCGA	1800
CTTGCTCATC TGTCAAAAAG ACTTGACCGC GCTCTGCAAT TTCAAATAAA CTTGAAACTT	1860
CGAAAATATT CCAAGCCACT GTTTCCCAT TATCTTTGAG AAAACACCG GCTACCTTGC	1920
CTTTGCGCTC CACATCCAGT TTGGCATCTC CGCTATTTT CACGATGACC ATAAGGACAT	1980
CACCGACATG TTCTTTATTA TATGTAAAA TCAATTGTTT CTTTCTCTCC TATTTGAGTC	2040
CTGCTAAAAA GTCATTGATT TGTGCTTGC TTTTACGGTC GCGATTGACA AAACGACCGA	2100
TTTCCTTGTC CTTTCTAGA ACAACAAGGC TAGGAATTCC GTAAACATCC CAGAGTTTGG	2160
CCAAATCCAT ATACTGATCT CGGTCCATTC GAATAAAGGT GAACTCTGGA TTGGTCTCCT	2220
CAATCTCTGG TAAGGCAGGA TAAATATAAC GACAATCGCT ACACCAGTCT GCCACAAAA	2280
TGAAGACCTT CTGCCCCGCT TTTTCCACTA AAGATGCTAA TTCTTCTAAA CTTGCTGGCT	2340
GTATCATAAG ACTTCCTCCT CATAGACTAG GTCTTCATTT TCATAGACAA AGGTATAATG	2400
ACGGCCATCC TCAAAAATGA CGCCACCAAC CAAGCTCTCC AGACTGCTTT CGTAAACTTG	2460
AACATAAAGG GTCGCAATTT CCCCATGTC GGAAAAATGG TCTCGCACA TCTCTGTCAA	2520
CTCTTCCTGA GTCTTCATGA GCTTACGGTC ATCTGCAACT TTTTTCGTAG CAAGAGCAAG	2580
GCTTCCGATA CCTAGCAGAG CCAAGCCTGC CATCCACATT TTTTGTAGCT TCATACCATT	2640
CATTTTAACA CAAAAAGGC TTCAGGACAA ATGAGGAAGC AGCAGAAAAG CAAGTAAAA	2700

326

GCCTCTTCCT TTAAGGAAAA GGACTTCTTA TACTCAATGA AAATCAAAGA CCAAAC TAGG	2760
AAGCTAGCCG CAGGCTCCTC AAAGCACTGC TTTGAGGTTG TAGATAGAAC TGACGAGTCa	2820
CTCAAAACAC TGTTTTGAGG TTGTGGATGA AGCTGACGTG GTTTGAAGAG ATTTTCGAAG	2880
AGTATTATTC TTATTGCCAG GCACCTAAGT TGCCAACGTA GTAACATCA GGTGTGTAGG	2940
TATTGCGAGC ATCTTACCTG ATGAAGCCAG ATAATACTAC TTGCCATTGT CTTTGACCCA	3000
ATCATTCGCA ATCATGGAAC CAGAAGAACT TACATAATAC CATTCCTCCCT TGTCAATAAC	3060
CCAAGTACTG ACTTTCATGG TTCCTGAGCA ATTAAAGGCA AAAAACTGT CCAATAACAT	3120
TCGTTTTTTA AAAGCATTTG AACTACAT	3149

(2) INFORMATION FOR SEQ ID NO: 32:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 10240 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: double
 - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 32:

CCAAAAATTC AACCTTIAAG GGGAGTCCAG AGAGACTCAC AAGGTGTCAG ATAAAAGAAT	60
GGTGCAATTT TCTAGAGGAG ACTTTTGTAG TGTGCTCTCT TGTGTGTAC GATTTTAACT	120
GAGGCCCTGC ACTAGCAAGG TCTTTTCTTT ATCTGGTCCC CTAAAAATTT AAGGAGGAAA	180
AGTTATGAAT CCCACATGTA AGAAGCGTTT GGGTGTGATT CGGTTGGAAA CCATGAAGGT	240
GGTTGCACAA GAGGAAATCG CGCCACAATC TTTGAATTAG TCCTAGAAGG AGAAATGCTT	300
GAAGCCATGC GAGCAGGCCA ATTTCTTCAT CTGCGTGTAC CGGACGATGC CCATCTCTTA	360
CGTCGTCCTA TTTCAATTTT GTCTATTGAC AAGGCAAACA AGCAGTGTCA CCTCATTTAT	420
CGGATTGACG GACCTGGGAC TGCAATTTTT TCAACCTTAA GTCAGGGAGA CACTCTTGAT	480
GTGATGGGGC CTCAGGAAA TGGTTTTGAC TTGTCTGACC TTGATGAGCA GAATCAGGTT	540
CTCCTTGTGT GTGGTGGGAT TGGTGTTCCT CCCTTGCTTG AGGTGGCCAA GGAATTGCAT	600
GAACGTGGAG TGAAAGTAGT GACAGTCCTC GGTTTTGCTA ATAAGGATGC TGTATTTTG	660
AAAACGGAAT TGGCTCAGTA TGGTCAGGTC TTTGTAACGA CAGATGATGG TTCTTATGGC	720
ATCAAGGGAA ATCTTTCCGT TGTATCAAT GATTTAGACA GTCAGTTTGA TGCTGTTTAC	780
TCGTGTGGGG CTCCAGGAAT GATGAAGTAT ATCAATCAAA CCTTTGATGA TCACCAAGA	840
GCCTATTTAT CTCTGGAATC TCGTATGGCT TGTGGGATGG GAGCTTGCTA TGCTGTGCTT	900
CTAAAAGTAC CAGAAAACGA GACGGTCAGC CAACGCGTCT GTGAAGATGG TCCTGTTTTT	960

CGCACAGGAA CAGTTGTATT ATAAGGAGAA AATTATGACT ACAAATCGAT TACAAGTTTC	1020
TCTACCTGGT TTGGATTGA AAAATCCGAT TATTCCAGCA TCAGGCTGTT TTGGCTTTGG	1080
ACAAGAGTAT GCCAAGTACT ATGATTTAGA CCTTTTAGGT TCTATTATGA TCAAGGCGAC	1140
AACCCTTGAA CCACGTTTG GGAATCCAAC TCCAAGAGTG GCAGAGACGC CTGCTGGTAT	1200
GCTCAATGCA ATTGGCTTGC AAAATCCTGG TTTAGAGGT GTTTTGGCTG AAAAGCTACC	1260
TTGGCTGGAA AGAGAATATC CAAATCTTCC TATTATTGCC AATGTAGCTG GTTTTCAAA	1320
ACAAGAGTAT GCAGCTGTTT CTCATGGGAT TTCCAAGGCA ACTAATGTAA AAGCTATCGA	1380
GCTCAATATT TCTTGTCCTA ATGTTGACCA CTGTAATCAT GGACTTTTGA TTGGTCAAGA	1440
TCCAGATTG GCTTATGATG TGGTGAAAGC AGCTGTGGAA GCCTCAGAAG TGCCAGTTTA	1500
TGTCAAATTA ACCCCGAGTG TGACCGATAT CGTTACTGTC GCAAAAGCTG CAGAAGATGC	1560
GGGAGCAAGT GGCTTGACCA TGATCAATAC TCTGGTTGGA ATGCGCTTTG ACCTCAAAAC	1620
TAGAAAACCA ATCTTGGCCA ATGGAACAGG TGGAAATGTCT GGTCCAGCAG TCTTTCCAGT	1680
AGCCCTCAAA CTCATCCGCC AAGTTGCCCA AACAAACAGC CTGCCTATCA TTGGAATGGG	1740
AGGAGTGGAT TCGGCTGAAG CTGCCCTAGA AATGTATCTG GCTGGGGCAT CTGCTATCGG	1800
AGTTGGAACA GCTAACTTTA CCAATCCTTA TGCCTGCCCT GACATCATCG AAAATTTACC	1860
AAAAGTCATG GATAAATACG GTATTAGCAG TCTGGAAGAA CTCCGTCAGG AAGTAAAGCA	1920
CTCTCTGAGG TAAACTGCAA TCAATCTGTT CTTGATTTTT TATTAGTTTG TAATATGAAT	1980
TTAGGAGAAT TTTGGTACAA TAAATAAAT AAGAACAGAG GAAGAAGGTT AATGAAGAAA	2040
GTAAGATTTA TTTTTTTAGC TCTGCTATTT TTCTTAGCTA GTCCAGAGGG TGCAATGGCT	2100
AGTGATGGTA CTTGGCAAGG AAAACAGTAT CTGAAAGAAG ATGGCAGTCA AGCAGCAAAT	2160
GAGTGGGTTT TTGATACTCA TTATCAATCT TGGTTCTATA TAAAAGCAGA TGCTAACTAT	2220
GCTGAAAATG AATGGCTAAA GCAAGGTGAC GACTATTTTT ACCTCAAATC TGGTGGCTAT	2280
ATGGCCAAAT CAGAATGGGT AGAAGACAAG GGAGCCTTTT ATTATCTTGA CCAAGATGGA	2340
AAGATGAAAA GAAATGCTTG GGTAGGAACT TCCTATGTTG GTGCAACAGG TGCCAAAGTA	2400
ATAGAAGACT GGGTCTATGA TTCTCAATAC GATGCTTGGT TTTATATCAA AGCAGATGGA	2460
CAGCACGCAG AGAAAGAATG GCTCCAAATT AAAGGGAAG ACTATTATTT CAAATCCGGT	2520
GGTTATCTAC TGACAAGTCA GTGGATTAAT CAAGCTTATG TGAATGCTAG TGGTGCCAAA	2580
GTACAGCAAG GTTGGCTTTT TGACAAACAA TACCAATCTT GGTTTTACAT CAAAGAAAA	2640
GGAACTATG CTGATAAAGA ATGGATTTTC GAGAATGGTC ACTATTATTA TCTAAAATCC	2700

328						
GGTGGyTACA	TGGCAGCCAA	TGAATGGATT	TGGGATAAGG	AATCTTGGTT	TTATCTCAAA	2760
TyTGATGGGA	AAATrGCTGA	AAAAGAATGG	GTCTACGATT	CTCATAGTCA	AGCTTGGTAC	2820
TACTTCAAAT	CCGGTGGTTA	CATGACAGCC	AATGAATGGA	TTTGGGATAA	GGAATCTTGG	2880
TTTTTACCTCA	AATCTGATGG	GAAAATAGCT	GAAAAGAAT	GGGTCTACGA	TTCTCATAGT	2940
CAAGCTTGGT	ACTACTTCAA	ATCTGGTGGC	TACATGGCGA	AAAATGAGAC	AGTAGATGGT	3000
TATCAGCTTG	GAAGCGATGG	TAAATGGCTT	GGAGGAAAAA	CTACAAATGA	AAATGCTGCT	3060
TACTATCAAG	TAGTGCCTGT	TACAGCCAAT	GTTTATGATT	CAGATGGTGA	AAAGCTTTCC	3120
TATATATCGC	AAGGTAGTGT	CGTATGGCTA	GATAAGGATA	GAAAAGTGA	TGACAAGCGC	3180
TTGGCTATTA	CTATTCTCG	TTTGTCAAGC	TATATGAAAA	CAGAAGATTT	ACAAGCGCTA	3240
GATGCTAGTA	AGGACTTTAT	CCCTTATTAT	GAGAGTGATG	GCCACCGTTT	TTATCACTAT	3300
GTGGCTCAGA	ATGCTAGTAT	CCCAGTAGCT	TCTCATCTTT	CTGATATGGA	AGTAGGCAAG	3360
AAATATTATT	CGGCAGATGG	CCTGCATTTT	GATGGTTTTA	AGCTTGAGAA	TCCCTTCCTT	3420
TTCAAAGATT	TAACAGAGGC	TACAACTAC	AGTGCTGAAG	AATTTGATAA	GGTATTTAGT	3480
TTGCTAAACA	TTAACAATAG	CCTTTTGAG	AACAAGGCG	CTACTTTTAA	GGAAGCCGAA	3540
GAACATTACC	ATATCAATGC	TCTTTATCTC	CTTGCCCAT	GTGCCCTAGA	AAGTAACTGG	3600
GGAAGAAGTA	AAATTGCCAA	AGATAAGAA	AATTTCTTTG	GCATTACAGC	CTATGATACG	3660
ACCCCTTACC	TTTCTGCTAA	GACATTTGAT	GATGTGGATA	AGGGAATTTT	AGGTGCAACC	3720
AAGTGGATTA	AGGAAAATTA	TATCGATAGG	GGAAGAACTT	TCCTTGGA	CAAGGCTTCT	3780
GGTATGAATG	TGGAATATGC	TTTCAAGCCT	TATTGGGGCG	AAAAAATTGC	TAGTGTGATG	3840
ATGAAAATCA	ATGAGAAGCT	AGGTGGCAAA	GATTAGTACT	ATAAGTGAAT	ATGATTTGAG	3900
TGAATAGTAA	GTTAAAAATC	CTGATTTC	GTAAAAATCAG	GATTTTTTCA	TGGATGCAAT	3960
TTTTTTGGAG	TCTGGTGTGA	CGCGGAGGGT	CTTTTGTCTT	GTGTAAGTGA	CAAAGCCGGG	4020
TTTTCCACCA	GTTGGTTTAT	TGAGTTTTTT	GACTTCAATC	ATATCTACCT	GCACCAGATT	4080
CGACAGGCGC	CCTTGAGAGA	AGTAGGCAGC	TAACTCTGCT	GCGTCTGTCT	TGACTGCATC	4140
AGATGGGTCA	AGATTTCCCTG	AGATGACAAC	ATGGCTTCCA	GGAATGTCTT	TAGCATGGAA	4200
CCAAAGTTCC	TCCTTGCGGG	CCATTTTAAA	GGTCAATTCC	TCATTTTGAA	GATTGTTTCG	4260
TCCGACATAG	ATGATGGTTT	TGCCATCGCT	TGCTAGATAT	TGTTCTAGTT	TTTTGCGTTT	4320
CTGGATTTTC	TCCCCTTGTC	TTCTGCGGAT	AAAACCTGTT	TGAATCAATT	CTTCACGGAT	4380
TTCAGCGATT	TCTTCCAGTC	CAGCTTGGTT	GAGGACGGTT	TCTACACTTT	CCAGATAGAG	4440
AATAGTGGCT	TTGGTTTCTT	CAATCAAATC	AGTCAAGTAT	TTGACAGCTT	CTTTGAGTTT	4500

CTGATACCGT TTAAAATAGC GTTGGGCATT CTGGTTGGGA GTCAGAGCCT TATCAAGCGC	4560
AATCATGATA GGTGTTGGTGG TATAGTAGTT GTCTAGGATA ACCTGGTCTT GGTGTTAGG	4620
CACTTGGTGG AGGAAGGTTG TCAGCAATTC TCCTTTTGA CGAAATTCCT CAGCGTTGTC	4680
TGTCGCCAGT AACTCTTTTT CCTGTTTTT GAGTTTGTGT CGGTTTTCTT GAAGTTCATT	4740
TTCAACACGA CGAATCAGTT CACTGGCCTG CTGTTTGACG CGGTCGCGCT CAGCCTTATC	4800
CTTATAGTAG GTGTCCAACA AATCAGAAAG ATTTGCAAAA GGCTCTCCCA CCTGATTTGC	4860
AAAAGGAACT GGACTGAAGG AAGTCTCAGT CAAGCATGGC TTGGTTTCTT GATTGAAAAA	4920
ATTTCCGAAA GCGGAAAGTT TTTCATAAC CAGTATCCTT TCCAATTCAT TTGCCGTATC	4980
GCGTCCCAGA CCTTGAAAGA GGCTTTGAAG ATTTTTTGCT GTTAGTCTT GGGTTTGCAG	5040
GATTTCAAAG AGCTTTTCAT CCTTGATAGT AAAAGGATTG AGAGATTTG TACTTGCCGG	5100
AGCGATATAG GTCGATCCTG GAAGTAAGGT GCGGTAGCTA TTTTGTGAAA AGCCGACGTG	5160
TTTGATAACT TCGAGGATTT TATGACTGCT TTTATCGACC AGTAGAATAT TACTGTGTTT	5220
CCCCATAATT TCGATAATCA AGGTAGCCTG GATATGGTCT CCAATCTCGT TTTTATTGGA	5280
AACTGTAAAT TCCACAATAC GGTCAATTTT CACTTGCTCA ATCGACTCAA TCAGGGCCCC	5340
CTGCAAATAC TTCTCTAAAA CCATGATAAA GGTAAGAAGT TGAGCTGGAT TTTCAAAAGT	5400
CGTTTGGGTC AGCTGAATGC GTCCAAAAAC TGGATGGGCA GAAAGGAGCA GGCGATGGCT	5460
TTGGCGATTG CTGCGGATTT GCAAGACCAA CTCTTGTTCA AAAGGCTGAT TGATTTTCTG	5520
GATGCGACCA TTCACTAATT CGCTTCGCAA TTCCTCAACT ATGTGGTGTA AAAAAATCC	5580
GTCAAATGAC ATCGTTCTCT CCTTGTGATT GTATTCCATA GTATTATATC AAAAAGGTAG	5640
AATAAAATCA TGGAAATGTG GTATAATAAA GCCAAGTAA GAGAAACGAG AAGCACATGT	5700
ATATTGAAAT GGTAGATGAA ACTGGTCAAG TTTCAAAAGA AATGTTGCAA CAAACCCAAG	5760
AAATTTTGA ATTTGCAGCC CAAAAATTAG GAAAAGAAGA CAAGGAGATG GCAGTCACTT	5820
TTGTGACCAA TGAGCGTAGT CATGAACCTA ATCTGGAGTA CCGTAACACC GACCGTCCGA	5880
CAGATGTCAT CAGCCTTGAG TATAAACCAG AATTGGAAT TGCCTTTGAC GAAGAGGATT	5940
TGCTTGAAAA TTCAGAATTG GCAGAGATGA TGTCTGAGTT TGATGCCTAT ATTGGGGAAT	6000
TGTTTCATCTC TATCGATAAG GCTCATGACC AGGCCGAAGA ATATGGTCAC AGCTTTGAGC	6060
GTGAGATGGG CTTCCTTGCA GTACACGGCT TTTTACATAT TAACGGCTAT GATCACTACA	6120
CTCCGAAGA AGAAGCGGAG ATGTTGCGTT TACAAGAAGA AATTTTGACA GCCTATGGAC	6180
TCACAAGACA ATAAACGAAA ATGGAAAAAT CGTGACTTGA TATCCAGTTT AGAATTTGCT	6240

330

TTGACAGGTA TTTTACTGC TATCAAGGAA GAACGCAATA TGCGAAAACA CGCAGTGACG	6300
GCTCTAGTGG TCATCCTTGC AGGTTTGTGTT TTTCAGGTGT CACGAATCGA ATGGCTCTTT	6360
CTCCTATTGA GTATTTCTT GGTAGTAGCC TTGAGATTA TCAACTCTGC TATTGAAAAT	6420
GTGGTGGATT TGGCCAGTCA CTATCACTTT TCCATGCTGG CTAAAAATGC CAAGGATATG	6480
GCGGCCGCG CGGTATTAGT GGTTCCTCTT TTCGCAGCCT TAACAGGCGC ATTGATTTTT	6540
CTCCACGAA TCTGGGATT ATTATTTTAA ACAGTAAGAG GAAATTATGA CTTTAAATC	6600
AGGCTTTGTA GCCATTTTAG GACGTCCCAA TGTGGGAAG TCAACCTTTT TAAATCACGT	6660
TATGGGGCAA AAGATTGCCA TCATGAGTGA CAAGGCGCAG ACAACGCGCA ATAAATCAT	6720
GGGAATTTAC ACGACTGATA AGGAGCAAAT TGTCTTTATC GACACACCAG GGATTCACAA	6780
GCCTAAACA GCTCTCGGAG ATTTTCATGGT TGAGTCTGCC TACAGTACCC TTCGCGAAGT	6840
GGACACTGTT CTTTTCATGG TGCCTGCTGA TGAAGCGCGT GGTAAGGGG ACGATATGAT	6900
TATCGAGCGT CTCAAGGCTG CCAAGGTTCC TGTGATTTG GTGGTGAATA AAATCGATAA	6960
GGTCCATCCA GACCAGCTCT TGTCTCAGAT TGATGACTTC CGTAATCAAA TGGACTTTAA	7020
GGAAATTGTT CCAATCTCAG CCCTTCAGGG AAATAACGTG TCTCGTCTAG TGGATATTTT	7080
GAGTGAAAA CTGGATGAAG GTTTCCAATA TTTCCCGTCT GATCAAATCA CAGACCATCC	7140
AGAACGTTTC TTGGTTTCAG AAATGGTTCG CGAGAAAGTC TTGCACCTAA CTCGTGAAGA	7200
GATTCCGCAT TCTGTAGCAG TAGTTGTTGA CTCTATGAAA CGAGACGAAG AGACAGACAA	7260
GGTTCACATC CGTGCAACCA TCATGGTCGA GCGCGATAGC CAAAAAGGGA TTATCATCGG	7320
TAAAGGTGGC GCTATGCTTA AGAAAAATCGG TAGCATGGCC CGTCGTGATA TCGAACTCAT	7380
GCTAGGAGAC AAGGTCTTCC TAGAAACCTG GGTCAGGTC AAGAAAAACT GGCGCGATAA	7440
AAAGCTAGAT TTGGCTGACT TTGGCTATAA TGAAAGAGAA TACTAAGTAG AGGTAGGCTC	7500
ATGCCTGCTT CTGTGTTTAA CAGAAGGAGG ACTTATGCCT GAATTACCTG AGGTTGAAAC	7560
CGTTTGTCGT GGCTTAGAAA AATTGATTAT AGGAAAGAAG ATTTGAGTA TAGAAATTCG	7620
CTACCCCAAG ATGATTAAGA CGGATTTGGA AGAGTTTCAA AGGGAATTGC CTAGTCAGAT	7680
TATCGACTCA ATGGGACGTC GTGGAAAATA TTGCTTTTT TATCTGACAG ACAAGGTCTT	7740
GATTTCCTAT TTGCGGATGG AGGGCAAGTA TTTTACTAT CCAGACCAAG GACCTGAACG	7800
CAAGCATGCC CATGTTTCT TTCATTTTGA AGATGGTGGC ACGCTGTTT ATGAGGATGT	7860
TCGCAAGTTT GGAACCATGG AACTCTTGGT GCCTGACCTT TTAGACGTCT ACTTTATTTC	7920
TAAAAAATTA GGTCTGAAC CAAGCGAACA ACACCTTGAT TTACAGGTCT TTCAATCTGC	7980
CCTTGCCAAG TCCAAAAAGC CTATCAAATC CCATCTCCTA GACCAGACCT TGGTAGCTGG	8040

331

ACTTGGCAAT ATCTATGTGG ATGAGGTTCT CTGGCGAGCT CAGGTTTCATC CAGCTAGACC	8100
TTCCCAGACT TTGACAGCAG AAGAAGCGAC TGCCATTTCAT GACCAGACCA TTGCTGTTTT	8160
GGGCCAGGCT GTTGAAAAAG GTGGCTCCAC CATTCCGACT TATACCAATG CCTTTGGGGA	8220
AGATGGAAGC ATGCAGGACT TTCATCAGGT CTATGATAAG ACTGGTCAAG AATGTGTACG	8280
CTGTGGTACC ATCATTGAGA AAATTCAACT AGGCGGACGT GGAACCCACT TTTGTCCAAA	8340
CTGTCAAAGG AGGGACTGAT GGGAAAAATC ATCGGAATCA CTGGGGGAAT TGCCTCTGGT	8400
AAGTCAACTG TGACAAATTT TCTAAGACAG CAAGGCTTTC AAGTAGTGA TGCCGACGCA	8460
GTCGTCCACC AACTACAGAA ACCTGGTGGT CGTCTGTTTG AGGCTCTAGT ACAGCACTTT	8520
GGGCAAGAAA TCATTCTTGA AAACGGAGAA CTCATCGCC CTCTCCTAGC TAGTCTCATC	8580
TTTTCAAATC CTGATGAACG AGAATGGTCT AAGCAAATTC AAGGGGAGAT TATCCGTGAG	8640
GAAC TGGCTA CTTTGAGAGA ACAGTTGGCT CAGACAGAAG AGATTTTCTT CATGGATATT	8700
CCCCTACTTT TTGAGCAGGA CTACAGCGAT TGGTTTGCTG AGACTTGGTT GGTCTATGTG	8760
GACCGAGATG CCCAAGTGGA ACGCTTAATG AAAAGGGACC AGTTGTCCAA AGATGAAGCT	8820
GAGTCTCGTC TGGCAGCCCA GTGGCCTTTA GAAAAAAGA AAGATTGGC CAGCCAGGTT	8880
CTTGATAATA ATGGCAATCA GAACCAGCTT CTTAATCAAG TGCATATCCT TCTTGAGGGA	8940
GGTAGGCAAG ATGACAGAGA TTAAGTGGAA GGATAATCTG CGCATTGCCT GGTTCGTAA	9000
TTTTCTGACA GGAGCCAGTA TTTCTTTGGT TGTACCTTTT ATGCCCATCT TCGTGGA AAA	9060
TCTAGGTGTA GGGAGTCAGC AAGTCGCTTT TTATGCAGGC TTAGCAATTT CTGTCTCTGC	9120
TATTTCCGCG GCGCTCTTTT CTCCTATTTG GGGTATTCTT GCTGACAAAT ACGGCCGAAA	9180
ACCCATGATG ATTCGGGCAG GTCTTGCTAT GACTATCACT ATGGGAGGCT TGGCCTTTGT	9240
CCCAAATATC TATTGGTTAA TCTTCTTCG TTTACTAAAC GGTGTATTTG CAGGTTTGT	9300
TCCTAATGCA ACGGCACTGA TAGCCAGTCA GGTTCCAAAG GAGAAATCAG GCTCTGCCTT	9360
AGGTACTTTG TCTACAGGCG TAGTTGCAGG TACTCTAACT GGTCCCTTTA TTGGTGGCTT	9420
TATCGCAGAA TTATTTGGCA TTCGTACAGT TTTCTTACTG GTTGGTAGTT TTCTATTTTT	9480
AGCTGCTATT TTGACTATTT GCTTTATCAA GGAAGATTTT CAACCAGTAG CCAAGGAAAA	9540
GGCTATPCCA ACAAAGGAAT TATTTACCTC GGTAAATAT CCCTATCTTT TGCTCAATCT	9600
CTTTTAAACC AGTTTGTGCA TCCAATTTTC AGCTCAATCG ATTGGCCCTA TTTTGGCTCT	9660
TTATGTACGC GACTTAGGGC AGACAGAGAA TCTTCTTTT GTCTCTGGTT TGATTGTGTC	9720
CAGTATGGGC TTTTCCAGCA TGATCAGTGC AGGAGTCATG GGCAAGCTAG GTGACAAGGT	9780

332

GGGCAATCAT CGTCTCTTGG TTGTCGCCCA GTTTTATTCA GTCATCATCT ATCTCCTCTG	9840
TGCCAATGCC TCTAGCCCCC TTCAACTAGG ACTCTATCGT TTCCTCTTTG GATTGGGAAC	9900
CGGTGCCTTG ATTCCTGGGG TTAATGCCCT ACTCAGCAAA ATGACTCCCA AAGCCGGCAT	9960
TTGAGGGTC TTTGCCTTCA ATCAGGTATT CTTTTATCTG GGAGGTGTTG TTGGTCCCAT	10020
GGCAGGTTCT GCAGTAGCAG GTCAATTGG CTACCATGCT GTCTTTTATG CGACAAGCCT	10080
TTGTGTTGCC TTTAGTTGTC TCTTTAACCT GATTCAATTT CGAACATTAT TAAAAGTAAA	10140
GGAAATCTAG TCGAGTAAA AATCAATCTC AAATGCTCCT CTTGTGGCAG TATCAATTAC	10200
CTAACCAGTA AAAATTCAAA AACCCATCCA GACAgATTGA	10240

(2) INFORMATION FOR SEQ ID NO: 33:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 13206 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: double
 - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 33:

CGCTTTATCG TGGACGTGGT CAAGCCGAGA ATTTTCATCAA GGAGATGAAG GAGGGATTTT	60
TTGGCGATAA AACGGATAGT TCAACCTTAA TCAAAAACGA AGTTCGTATG ATGATGAGCT	120
GTATCGCCTA CAATCTCTAT CTTTTTCTCA AACATCTAGC TGGAGGTGAC TTCCAAACTT	180
TAACAATCAA ACGCTTCCGC CATCTTTTTC TTCACGTGGT GGGAAAATGT GTTCGAACAG	240
GACGAAGCA GCTCCTCAA TTGTCTAGTC TCTATGCCA TTCCGAATTG TTTTCAGCAC	300
TTTATTCTAG GATTAGAAAA GTCAACCTGA ATCTTCCTGT TCCTTATGAA CCACCTAGAA	360
GAAAAGCGTC GTTAATGATG CATTAAGAA CAGTCGAGAT GAAAAAATCG TGTGACGCAC	420
CAAGGGAGGA GTCTGCCCTT TTGAGGAAAT CTAGCGAGGA AAAACGATAC TGGAACAGCA	480
GAAAGTAAAA CTGACCTCAT GAGGAGGAAG AAAGTGGCTC ATGAGGTCAG GGGTTTTGTA	540
AGTTACATCT AGTTGAGAGA GGTATGAATG ATTTGGGATT AATCATTTCT TGTTTTAAAT	600
CAGGAGAATA GTAACGATTT TTTCTTTTTT TGACGAACTC TATTCCGTAA CGATCAATCA	660
ATTTAATCAT GTACCTAATA TTAGAATTGT TTATCCCAA TTTATTTGAA AGCTTCTCTA	720
AGCTATATCC TTGTTTCTA AGTTCATAGA TCTGAACTTT ATCATATAA GTTAGTTTCA	780
TAATAAAAAC ACCCCAAAAG TTAGATTTT TCTGTCTAAC TTTTGGGGGG CAGTTCATTC	840
AACACCTGAT ACTATGCGTT TTTCTTATTT GAAATACTTT TTAACAACC TCTTTATACT	900
CAATGAAAAT CAAAGTGCAA ACTAGAAAGC TAGCCTCAGG CTGCTCAAAA CAGTGTTTTG	960

333

AGGTTGCAGA TGGAAGCTGA CGTGTTTGA AGAGATTTTC GAAGAGTATT ACTTAATCTT	1020
CTTGATACTT TGACTAAGAA TAAATCCTAC AATCATCCCT ACCATATTTT GCATAAAATT	1080
CGGTAGAATT TCTGGGAGGG CTGCTGCCCA GCCATTTCATC AAAGCAGAAC CCAAGGCGTA	1140
GCCTCCTACC ATGGCAATAG TTGCTAAAAT AAGGCCTAAC CACTGACTTT TTCCTTTAAA	1200
TCCTGCGAAA AATCCCTGCA AGCCATGGTT GACCAAGCTA AAGAACATCC ACTGAGGGTA	1260
GCCTGATAAG AGGTCAATCA AGAACTTGC TAGTCCTCCG ACTACCGCTC CTTACGACT	1320
ACCAAAGTAA AAGGCCGCAA AGAAGACACC AGCATCTAAA AGAGTTAGAA TTCCTGTAGG	1380
TGTTGGGATT TTTAAGAAAT AACCTAGAAC CACAGAAAGG GCGGTTAATA GGGATACAAG	1440
GGCGATTTTA GTTGTTTTTG TTTGCTTCAT ATTGTCTTAC TCCATACTGA TCTGCTTG TG	1500
CAATAGCACG ATAAACGAAA GCCTTAGAGC TTTCTACTGC TGGCAAAAGT TTATCACCTT	1560
TAACCAGGTG ACTGGCAATG CTAGAGsCAA AGGTACAACs TGCACCAGCA TTTTGGCCTT	1620
GGATAACTGG ATTTTCTAGG ATAGTAAAGG TCTGTCCATC ATAAAAGACA TCCACAGCCT	1680
TGTCCTGACT AAGACGATTG CCTCCCTTGA TAATGACTGt GCGGCTCCTA AATCATGCAA	1740
TTTCTGCGCT GCAGTTTICA TGTCTTCCAA GGTTTTAATT TCCTGACCGG ATAATAATTC	1800
TGCTTCTGGG AGATTAGGCG TAATCACACT GACATAAGGG AAAAAGCGAA TCAACTCTTG	1860
GCAGAGCTCA CTGACAGCTA CATCATGCGT TTCCTTGCG AGCAAGACAG GATCCAACAC	1920
CACAGGTACT CTTGGGCGTT GTTTGATAAA GTCCAAGGCC TTCTCAGCCA CGCTGACAGT	1980
AGGGAGAAGA CCAATCTTAA TTCCCCCAA TTCCACATCA CGCAAGCTAT CTAATTCATG	2040
TTGAAAAATG GTATCATCAG TTGGAAAGAC TTCAAATCCT TTTTCTGTCA AGGCTGICAA	2100
ACAAGTCACT GCTACAAACC CATGCAAGCC GTTCAAGGTA TAGGTAGCCA AATCAGCTGA	2160
CAGTCCACCA CCACTAAAAA TATCATTTC AGAAAGTGCT AAAATACGAT TATTCTTCAT	2220
AACGAATCTC CTTTAAATAC AAACCATTTG GTGCTGCAGT GGGACCTGCA AGTTGCCTGT	2280
CCTTCTTCTC CAAGATGAGA TCAATCTGCT CTACTGGCAT GCGGTTGTTA CCGATTTTGA	2340
GAAGAGTCCC CACCATATTG CGAATCTGTT TATACAAGAA ACCATTTCCT GAAAAGGTAA	2400
AGGTCAAAAA TTGTCCTGTC TCATCGACTA TTAACTAGC TTCTGTGATG GTGCGAACCT	2460
TATCCTCTAC ACTAGTCCCA GAGGCTGTAA AACCGGTAAA ATCATGGGTT CCCTCTAGCT	2520
TTTGTGATTGC AATCTGCATT CGTTCCACAT CGAGTGGGTA GGGAAAGTGG GTGGCATAGT	2580
GACGGCGCAT CGGATTTT TG GACGCTCTC TATCCACAGT AAACCTCATAG GTCTTGCTAT	2640
GCTTGGCATA ACGGCAATGA AAATCATCTG CCACAAGCTC AATCGAAATC ACATCAATAT	2700

334

CTTCAGGAGA CTGGGTATCC AAGGCAAAAC GGAGTTTCTC CTCATCCATC TGATAAGGCA	2760
GGTCAAAATG AATCACCTGT CCCAGGGCAT GAACCCCACT ATCTGTCCTA CCAGCACCGT	2820
GAACAGTAAT GGCTTGCCCT TTATTTAATC TGGTCAAGGT TTTTTC AATT TCTTCCTGAA	2880
CGCTACGCGC ATGAGGCTGG CGCTGAAAGC CAGCAAAGGC ATAACCATCA TAGGAAATAG	2940
TTGCTTTATA TCTCGTCATA GCCTCTATTT TATCAAGAAA TTAGTCTGTA AACAAAGGACC	3000
TAAAACAAAT ATTGTATGGG TATAAAAATC TCATACTCTT CGAAAATCTC TTCAAACCAC	3060
GTCAGTTTCC ATCTGCAACC TCAACACACT ATTTTGAGCA ACCTGCGGCT AGCTTTCTAT	3120
AGTAGATTGA AATAAGATAT GAACAACCTCT ATTAGGAAAG TCAAAATTAAT TTCTAGAAAT	3180
ATTTTAGCAG CTACAGCGTA CTATTCCAAA CTCAATCAAC TATAGTTTGC TCTTTGATTT	3240
TCATTGAGTA TCAAAAGAAA AACTTAGGAA TCAATCCTAA GCTCTCTTCT GAAGTAGGTA	3300
CATGACAAAG ATAGAGATTA CAATCAACCA ACCTCCTAAG ATACTAAAGA CCAACATCCC	3360
ATTGTGAGTT AGTAAGCCAA TTGCACCTAG AACGAATGGG GTCGTAAAGG CTCCGAAACT	3420
ACAGCCTAAT ACAGCAAATG AAGTTGCTTG ATTGAGGAGT TTAGCTGGAA TTCGTTCAGA	3480
GACAAGTTGA AAGACCGTCG TCAAGACTAC ACTATAGGCA AATCCAGCCA GAACACTTCC	3540
TGCTACTACC ACCCACAAGG ATGAAGACAA GGCAATCACG ATTTGCCCCA AGCCAAAGGT	3600
AATACCAGAC CAGAGGAGCA GTTCTCTTTT AAAGATAGAA ATCAAGAAAG AAAAAGTCAC	3660
CCCAGCCACA ATCCCCATCA ACTGCATGAT ACTAAGAACA AAGTAGATA ACTGGGCATC	3720
CCCCAATCCT CTTTCCACCA TCAAACCTGG AATACGGATG GTAATAGCTG TATTGGTACA	3780
AACTACAAC TCCGCTTCGA TAGCTAAGGT AAAAATCAAG CCTTTCATTT CTCGAGTTAA	3840
ACGACTTGCT TCCTTCGCTC TTTCTTTGAC TTCTTTCTTT GATTTTCCAT AAGGGACAAA	3900
GAGCAGATAA AGGGGCAGCA CCAAAAATCC AGCACTATAG GCTAGAAAGA TAGCTGTCCA	3960
ACCAAAGGCC AACAACTGAC CGACGGCCAA GGTAATGAGA GAAGCTCCAA CGACCTCTGC	4020
AGAAGCGCGT AGCCCTAACA TCTGAATTCG CCTTTTCTCT TGGTAGCGTT CACTGATAAT	4080
AGAAATGGCC TTGGCATTGA TCATCCCAAG ACCCAAACCA AAGAGAAGCC GTGTTCCAAA	4140
GACAAAGGGA TAGGCTTGGT ACCAGAAGGG AGCTGTACCG CTCAATGATA AAATCAGCAA	4200
GCCCAAACTA ATCTGTAAGC GCTCAGGAAA TATTTTCTCT AAGAAACCAT TTAGCAGTAA	4260
CATCATCATG ATTCCAAAGG AAGGCAAGCT CACCAAGAGC TCAATTTGTT CCTTAGAATA	4320
ACCCTGATAA TAGTCAAACA TGCTGGTAG GGCACGCGAA ATGGAAAAGG AGGTAATCAA	4380
AACGAGGGAG AGAGCCAAAA TGCTGGCCCG TTCTAAAAAT TGTTCATGA AATCTCTTTC	4440
TATATTTCTC TTAATCTTCT ACTTTTGTGA TAGTTATCAA ATAAGCAAGA AAAGAAGAAG	4500

335

CCTCATTTGGT TTGTAGACTC CTTCCTAAAT TCGAAAATGA ATCCCTTGTA TCTTATACTC	4560
AATCAAAATC AAAGAGCAAA CTAGGAAGCT AGCCGCAGGT TGTTCAAAAC AGTGTTTTGA	4620
GGTTGCAGAT GGAAACTGAC GTGGTTTGAA GAGATTTTCG AAGAGTATTA GGATGACTTT	4680
CTCTTGATTT GCTTGATAAA GTAGAAAATA AATCCTGCTA CCATATAGGC AACAAAGATA	4740
ATCAGACACC ACTTAAACAC AACATTCCAA CCCTTGTTCA CATTCAAAA GAAGTAAGGG	4800
AAAGGATTAT CCTTGGCATT TGGAAATATG AGTTTGTAGAA CCAAGCCATT AAAAAGAGCA	4860
AACATCATAT ACAGAAAGGG TAAATGGTC CACACTGCTG GATCCCAAAT CTGTATTGA	4920
CCCTGTTTGT CAAAAAGAG GGTATCCGCT AAAAACCAGA TGGGAACGAT ATAGTGGCAA	4980
AGGAAATTTT CTAGGGTATA GAAATTAGTC GCAATGGGCG CCAAGAGGAA ATGGTAAATC	5040
ACACAGGTAA TCATGATACT CATGGTGACC CCACCTTTTA AGCGCAAGAG ACTTGGCCTT	5100
TGCCAATTTT CACCTACACG GCTCATAACC TTTAGAAGAT AAAGGGTAAA AATAGTTACC	5160
AAGAGGTTGG ACAGAACCGT GTAATAGAGA AGCATCCCAA AACCACCATG CTTAGTAATT	5220
TCAAGATAAA CTCCCGTAAA AGCCGCTAGA AACAAGAAGA TACGGCTATA AAATACAAGT	5280
TTATAGTGTT TTGACATGCT TAAATCTTCC TCACAAACTC TGATTTAAGT TTCATGGCAC	5340
CAAAACCATC AATCTTACAG TCGATATTGT GGTGCGCTTC TACGATGCGG ATATTTTTC	5400
CGCGCGTCCC TTGTTTCAAA TCTTTTGGCG CACCTTTTAC TTTCAAGTCC TTGATGAGAG	5460
TTACTGTATC ACCATCAGCC AATTTATTTC CGTTGGCATC GATAGCGACA AGACCTTCTT	5520
CTACTTCTGC AACTTCAGCA GGATTCCACT CATGAGCACA CTCTGGGCAA ACCAGTAGGG	5580
CACCGTCTTC GTAGACATAC TCTGAGTTAC ATTTTGGACA ATTTGGTAAA TTCTTCATGG	5640
TTTCTCCTTA TCATCATTC	5700
ATACCTTAAA ATCAGCATTT TGACAAATTT AGAAAAAAC CGATATCAAT CTATCGGCTT	5760
TTCTACATTT ACATTCCTTT TTCAGCTTCT GCTTTGATTT TTTCAACTAC TTCTTGAATG	5820
TTCAAACCAG TTGTATCAAG GTAGACAGCA TCCTCTGCTT GTTTGAGAGG AGAAGTCTCA	5880
CGATGACTAT CCTTGTAGTC ACGCGCAGCA ATTTCCCTTTT TTAGGGTTT AAGGTCTGTT	5940
TCAATTCCCT TGGCAATATT TTCCTTGTA CGACGCTCTG CTCTCTCATC AACAGAAGCT	6000
ACTAGGAAAA TTTTCAATTC TGCTTGTTGGC AATACAACAG TTCCAATATC GCGACCATCC	6060
ATGACAATCC CGCCTTGCTG GGCAATTTCT TGTGGGAGAG AAACCAGTTT CTCACGCACT	6120
TGAGGAATTG CTGCAATAGC AGAAACATGA TTGGTCACTT CATTTTCACG GATAGGATGG	6180
GTAAATATCCA CATCTCCTAC AAAACAAGC TGGTCTCCAG TTTCTGAACG TCCAAAGCTG	6240

336

ATTGGATGCT GGTCCAACAA GGCTAGAAGG GCTTCGACTT CTCAACTCC TAATTGGTTC	6300
TTAAGAGCCA TATAGGTCGC TGCACGATAC ATAGCTCCTG TATCAAGGTA GGTGAATCCA	6360
AAATCCTTAG CAATAATCTT TGCAGCCGTA CTCTTACCGC TGAAGCAGG ACCATCAATA	6420
GCAATTTGAA TTGTTTTCAT ATCGGCTCCT ATTTTATTTT TATAACATCA CCTGGATTAG	6480
CAAACCAAGA TCCTGTAGCC ATGTGCCAG GATTCAAGGC CTCTAACTGA GCAATGGAGA	6540
TTCTTGACAG AGCGGCAATA GCTGCTTCCC CTTCTCCTGC GAGAACTTTA ATCGTTCCTT	6600
CAGGATTAGC AGCTTCTTCT GAACTACTAG AAGTAGATTC TGGCTCTGAA CTCTGCTCAG	6660
GCTGAGAACT ACTTGAAGAT GAGATTTGTA CTACACTGGC ATCAGAATCA TGAAAGCCTT	6720
TTAAGGCTGC TGTGCGATTA CTCCCCCCG ATGATAGATA GATGAGAACG ATGACCATCA	6780
CCACCACAAT TACAAAGAAA ATACTAGCTA GGATCGTCAA AATACGATTA GCCATCCTAT	6840
CAGCCCCTCC GTGGTTTCGA TGCCGACGCT CTGCTCTTGA TTCTTCTTGA TCATAGATAT	6900
CTTCTTGCCA CGGTTCTTTT GCCATACCTT ACTCCTTGTT TTTTTTACT TTTCTTATTA	6960
CAATATAAAT ATGAACATGA AAATCACACT TATACCTGAA CGATGTATCG CCTGTGGGCT	7020
TTGCCAAACT TATTCTGATT TATTTGATTA CCACGATAAT GGAATCGTGC GTTTTACGA	7080
TGACCTGAC CAACTGAAA AAGAAATTTC TCCTAGTCAG GATATCTTAG AGGCTGTAA	7140
AAATGCCCCA ACTCGCGCCC TGATTGGAAA CCAGGAAGCC TAAATCAATG GCGATAATCC	7200
ACTCCCTCTA GTTTAGCACA TTTCCATGTA AAATTATAGT CTTTCACTT TATTTTPTTC	7260
TGTAATAATCA GGAAGGTCAC TTTTCTCTT GATAAGATAA AGTGGTCTTT TTTTAGTCTC	7320
TAAATAAATC TTAATGATAT ACTTGCCGAG AATCCCAATG GTCAAGAGTT GAATGCCTCC	7380
AAGAAAGAGA ATAACAGCCA TCAGAGAGGT CCAACCAGAT GTCGGATTGC CAAAATGAG	7440
GGTCCGAACC ACAACAAAAA AGGTCATCAG CAGAGAAAGA AAACAAGATA GGAGACCAGC	7500
TACAAAGGCT ATAATCAAGG GAAAATCTGA AAAATTAATA ATCCCTTCAA TGGAGTAGAA	7560
AAAGAGTTGC CTAAACTCC AACTTGCTT GCCAGCCTGC CTTTCGACAT TTGGATAGTC	7620
CAAATAGTAG GTTTTGAAAC CCACCCAGGC GAAGAGCCCC TTTGAAAAAC GATTGGACTC	7680
GGTCAAGCTT AAAATGGCAT CGACTACAGA CCTTCTCATC ATACGAAAAT CACGGACACC	7740
CGACGCAGA GCTACTGGGC TGATTTTTTG CATGAGGCGA TAAAAGAGAA CAGCACAGAA	7800
ACTGCGAAAG AAGGGTTCTC CCTCCCGACT AGTTCTCCGT GTCCCAACGC AGTCCAAGTC	7860
TACATTTTTG TCTAATACAT TTTTCATCTC AAACAACATA CTAGGAGGAT CTTGAGGTC	7920
TGCATCCATC ACCACCACCA AATCTCCTGT CGCATATTGC AAGCCTGCAT AAAGGGCTGC	7980
TTCTTTGCCA AAATTCGAG AGAAAGAAAT ATAATGACT GCCGATTTT GCTCCCGATA	8040

337

GGCCTTTAAG AGTTCCAAGG TCCCATCACT TGATCCATCA TCGACAAAGA CATACTCGAT	8100
TTCTGTTTCC AAATCTGGAA GTAAAGCTTC CAGAGCCTGA TAAAAAAGAG GAAGTACTTC	8160
CTCTTCGTTT AAACAAGGGA CGATGATTGA AATCATCATC TTAGTCTTCA AATCCATTTG	8220
GATGCTTGCT TTGCCAACGC CATGCGTCTT CACACATTTG GGTGATGTCG AGTTCTGCTT	8280
CCCAACCGAG TTCTGCTTTA GCTTTTGCCG GGTCTGAGTA GCAGGCAGCG ATATCACCTG	8340
GGCGACGTTT TACGATGCGG TAAGGAATAG GACGGCCAC CGCTTTTTC ATGTTTGGGA	8400
TAATTTCAAG AACTGAGTAA CCTTTACCAG TTCCAAGGTT ATAAACGTTT AGTCCTGAAC	8460
CTTTTGGAT TTTTTCAAA GCTGCAACGT GACCCTTAGC CAAATCGACA ACGTGGATAT	8520
AGTCACGAAC ACCTGTTCCA TCTTCCGTAT CGTAATCGTC TCCAACACT TGCATTGCT	8580
CTAATTTTCC AACGGCTACT TGAGTCACAT ATGGCAAGAG ATTGTTTGGGA ATACCGTTTG	8640
GATTTTCTCC CAAATCACCA CTCTCATGGG CTCCGATTGG GTTAAAGTAA CGAAGCAAGA	8700
CAACATTCCA TTCTGAGTCT GCTTTGTAAA TATCAGTCAA AATTTCTCT AGCATGAGCT	8760
TAGTACGACC GTATGGGTTG GTCACGTAAA GTGGGAAATC TTCCAAGATG GGCATTGTGT	8820
GCGGATCCCC GTAAACTGTC GCAGAAGAAC TGAAGATGAT GTTTTACAG TTGTTTCTT	8880
CCATGGCTTT CAAAAGGCTG ACAGTTCCAG CGATATTGTT GTCATAGTAG GCAAGAGGGA	8940
TACGTGTTGA TTCGCCAACA GCCTTCAAAC CAGCAAAGTG AATGACACCA GTCGGTCTT	9000
CCTGCTTGAA AATATCTCTG AGGGTATCTG TGTACGAAT ATCTGCCTCA TAGAAAGGAA	9060
TCTCAACTCC TGTGATTCCT TCAACAACCT CTAAACTCTT ACGATTGCTA TTGACAAGAT	9120
TATCCACCAC AACAACTTGA TGACCTGCTT GGATCAATTC AATAACAGTG TGGGTCCAA	9180
TAAAACCGGC ACCACCAGTT ACCAAAATCT TTTCTTGCAT CTTTTTCTCT CGATTCTCAG	9240
ATTATTTTCT CTATTTTAC CATTTTGAC AGGGAATGTC ATTTGCCATC CTAAACTACC	9300
TGATAAAATT TCAGTAAAT GCTTATACTC TTCGAAAATC CAATTCAAAC TACGTCAACG	9360
TCGCCTTGCC ATGGGTATGG TTACTGACTT CGTCAGTTCT ATCCACAACC TCAAAACAGT	9420
GTTTGTAGCT GACTTCGTCA GTTCTATCCA CAACCTCAA GCAGTGCTTT GAGTAACCCG	9480
CGGCTAGTTT CCTAGTTTGT TCTTTGATT TTATTGAGTA TTATTCGCTT TTTACTCGTT	9540
TGACATAGTT TTCAATTGGG TAATTTAGAG GGTCCAAGGT CAACTCCTTG TCTTGGATCA	9600
GTTGGGCTAG ATGGTAACCA ATGATAGGAC CAGTTGTGAG GCCTGATGAA CCTAGTCCAC	9660
TGGTGCATA GACACCAGTT AAGTCAGGCA CTTGCCCAA GAAAGGAGAG AAATCACTGG	9720
TGTAGGCACG GATTCCAACA CGCTCAGATT TTGAAGTAGC TTCAGCCAAA ATCAGATAGT	9780

338

GAGTCAAGGT GGCCTCCTCC ATTTGTTGGA GCAAGGTTTC ATCTACCGTC AAATCAAATC	9840
CCATGTCATT TTCGTGGGTA GCGCCTAAGG ATAATTTCCC ACCTGCAAAG GGAATCAAAT	9900
CCCCTCCCC TTCTGGCATG ACAACAGGT AATCTTCCAT GTCTTGGGCA AGCTGATAAT	9960
CTCGTAGTTG TCCTTTTGA GGACGGACAT CCACTTCATA ACCTAAAGGC TCTAACATGT	10020
CCCCCAACCA AGCTCCCGTC GCCAAAATAA CCTGCTCAA CTCTCTTCA CCAATCTGGT	10080
AGCCTGATGC TAACGGTGC AGAGTCACTT TTTCTTTGAC CAGCTTGACA TGACTGACTT	10140
CCAGCAAACG AGTCACTAAA AGTTGGCCAT CTACTCTCGC TCCACCAGAA GCATAGAGCA	10200
GGCGGTCAA TCCTTGCAA CCAGGGAATA ATTCAATTAGC TGAGGCTTGG TTCAGAATGG	10260
CTAATTGCCC TATCAAGGGA GATTCTTCTC TGCGCTGGAG GGCCAGTTGA TAAAGTTCTT	10320
CCAAATTGGA TTCATCCTTT TTCAAGAGAA AGACTCCCGA ACGCTGGTAA AAGTCGATTT	10380
CTTGTCCTGA TTTCTCTAAA TCAGCTAATA AATCCACATA AAAATCAGCC CCCAAGCGCG	10440
CCATCTTGTA CCAGGCTTTA TTACGGCGTT TGGAAAACCA AGGACTGATA ATTCCTGCTG	10500
CGCCCTTGGT GGCTTGACCT TGCTCATGGT CAAAAACGGT CACCTCTAGG TCACTTTCTC	10560
TCGAGAGGTA GTAGGCAGCT GTTCTCCCA CAATCTCTGC TCCAATAATG GCAACTTTTT	10620
TCATTGTCTT CACTTTCTAA CTAGATATGA TGGAAAGGAT TGTTGATGC CTGACTAGGC	10680
AAGATATCAA TAGACCACCC CTTATCTTCC TTCCATTGAC TAAGAAGTGC TGCGATTTTT	10740
TCTACAAAAA TCACTTCGAT ATAGTGACCT GGGTCCAATG CAAGCAACCC ATCAGATAGC	10800
ATATCCTGAG CAGTATGGTA GTAGATATCA CCAGTGATAT AGACATCTGC CCCCTTTGCC	10860
AAAGCATCCT TATAGAAAGA CTGCCCGCTT CCACCACAAA TTGCTACTCT TGAAATAGGC	10920
TTCTGCAAAT CATCCTCTTG ATAATGCACC ATTCTGAAGGC TATCTAGGTC AAAGACTTGC	10980
TTGACCTGTT GGGCCAATTC CAAAAATGTC TGAGGCTGAA TATTCCCAAT ACGTCCAATT	11040
CCACGTTCTG GACCTGTTTC CTGCAGATAA GTCGCTCCT CGATTCTTAG CATCTGACAA	11100
AACCAGTCAT TGAGCCCAT TTCAACGATA TCAATATTGG TATGGCTGAC ATAAACTGCG	11160
ATATCATGCT TAATCAGGTC GATGTAAATC TGATTTTGGC GACGGCTGGC AAGCAAGTCC	11220
TTGATAGGAC GAAAGATAGG CGCGTGCTTG ACGATAATCA AGTCCACACC CTTTCAATG	11280
GCCCTGCCA CTGTCTCTTC ACGAATATCG AGGGCAACCA TGACCCTTTG GATACCCTTG	11340
TCTAAAGTGC CAATTTGCAG ACCACGGCTG TCTCCCTCCA TAGAAAATTC CTGAGGGCAA	11400
AAGGCTTCAT AAGCTTGGAT CACTTCACTT GCTAACATGG AGCACCTCCT TGATAGCTTG	11460
AATCTTATCT ACTAGAACTT CACGTTCTTC CAGATTTTTT TCTGGGATTT GTCCGAGGGC	11520
GAACTCTAGC TTCTCAGCTT CTTTTTGCCA TTTTGGACA AATACTGGAC TGACTTCTTT	11580

339

GGACAAGAAG GGACCAAAGC GAACATCACT GGCTGATAGC TTCATTTCCTC CTGCTTCCAC	11640
CACCAAAATC TCATAAAACT TTCCAGCTTC TTCTAAGATG CTTTCTGCTA CAATCTGGAA	11700
TCCATGATCC TGTAGCCAGA TACGCAAGTC GTCTTCACGA TTATTGGGCT GGAGGATCAA	11760
ACGCTCTACA TTAGCTAACT TCCCCAAACC TTCTTCTAAA ATCCTAGCAA TCAAACGACC	11820
ACCCATGCCA GCAATGGTAA TGACAGACAC TTGGTCAGTC TCTTCAAAAG CTGCCAAGCC	11880
ATTGGCTAAA CGGACTTGA TTTTCTCCTT TAGGCCGTGA GCCTCAACAT TTTTAACCGC	11940
AGACTGATAG GGACCTTCCA CCACCTCACC TGCAATAGCG CTTTTGATTT GGCCTCTCTC	12000
AACCAACTCG ATAGGCAGAT AAGCATGGTC ACTTCCCACA TCTAGTAAAA TAGCCCCCTG	12060
TGACACAAAG GAAGCTACCA ATTCTAATCT CTTTGAAATC ATCTTCTCTC ACTTTCCAAA	12120
ACTCTATTAC CTCTTATTAT ACCACATTTT AATCTTCAAC TTCCCAGTAA TATAAGCACC	12180
TCTGGCGAAA GAAGTTTCAA TGTCCCTAAAG TAATAAGTGA ATCCAATTGA AAGATTTTAA	12240
ACAATTTGCA AAAATGTCAA AAAATAAAAA ATAAACAGTT TATTCAGAAA ATTCTTGACA	12300
TATAAAAAACA CATGGTAGAA TATAATTAGA AAGTTAGAAA AAATAAAAGT TTGACTAAAA	12360
TTTGTTATTTG AAGGTGGTGT TCAGATAAGA AATTTAGTCA GACGAACCAC GAATTTGCTC	12420
TATGCTTTCT GGAATTTATC ATAACAGGAG GATACAGTCA TGGAACAAAC ATTGTTTGAA	12480
TTAGAACTAC TTCCAGAGGA AGATATCATT GTCACAGGTC TCCCTAAGTA TTGTTCTTTT	12540
ACTTGTTTAA TTACAGGTCG CTAGTTATAT TTTATATAAA ATAAGTAGCT TTACTTACGG	12600
AATAGGCTAG TGCTGTGTCT CTAGCCTATT TTAATAATTA GGAGTTTGTT ATGGATTTAT	12660
TAGAGAAAGA ATGTTTAAAA TGTGATAAAA ATTTCCAACA GGGTGATATT TGAATTACT	12720
ATTATTTATC AGATAAGATG CCTGCACAAG GGTGGAAT ACACATAAGC TCCCAAATAA	12780
AAGACGCTGT AAATATTTT AAGATTGTGT ATAAACTATC CCAACTAAAT AATTGTAGCT	12840
TTAAAGTTGT TAAAAATTTA GAGGAATTAA AAAAAATTAA TTCCCCTAGG GAAATGAGCC	12900
CTACTGCTAA CAAATTTATA ACTCTATATC CTAAGTCAGA ATCTGAAGCT AAGAGTATGA	12960
TTTGTAATCT TACGAATAGA CTGTCAGAA TTAAGGCTCC AAAAATACTA TCTGACTATC	13020
AATGTGGAAT GCATTCTCCA GTTCATTATA GATATGGGCG TTTTAAAA AAACAAGCTT	13080
ATGATGAAAA AAATAAAAAA GTCATCTATT TATTGCTAGA TGAAAAAAG AAGAATATG	13140
TAGAAGATAA GAGACAAAAT TTCCCTAGTC TTCCTAGCTG GAAAATGGAT TTATTTTCAG	13200
AAGAAG	13206

(2) INFORMATION FOR SEQ ID NO: 34:

340

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 13104 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: double
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 34:

```

CCGGATCCAG CGAAAAATAT GCTCTTTGAT GCTGTAAGTG GTCAAAAAGA TCCTAAAACA      60
GCTGCTAACG ATGCTGTAAC ATTGATCAAA GAAACAATCA AACAAAAATT TGGTGAATAA      120
AAAATTGTGT CAAGGGGGGT GGAAATCAAA TCCCCCTTTG AATTTATCAA TAGAGACACA      180
AATAATTTAG CTTTCTTATA AAAAAGTAGT ATCCTATGAA AGGAGTTAAT ATGGAAAAGC      240
AACAACTTAG TAAAGCAGCC CTGCTGTCTA TCATTCTCTG GTTAGGACAG ATTTACAATA      300
AACAAAAAGC CAAAGGTTTT ATCTTCCTTG GTGTAACCAT CGTATTTGTC CTTTACTTCC      360
TAGCACTTGC AACCCCTGAA TTGAGCAACC TCATCACTCT TGGTGACAAA CCAGGTCGTG      420
ATAATTCCCT CTTTATGCTG ATTCGTGGTG CCTTCCATCT AATCTTTGTA ATCGTTTATG      480
TACTCTTTTA TTTCTCAAAT ATCAAAGATG CACATACGAT TGCAAAACGC ATTAACAATG      540
GAATTCCAGT TCCACGCACA CTCAAAGACA TGATCAAAGG GATTTATGAA AATGGCTTCC      600
CTTACTCTCT GATCATFCCA TCTTATGTTG CCATGACCTT CGCGATTATC TTCCAGTTA      660
TCGTAACTT GATGATCGCC TTTACCAACT ACGACTTCCA ACACTTGCCA CCAAACAAGT      720
TGTGGAAGTG GGTGGTTTGG ACCAACTTTA CAAACATTTG GAGCTTGAGT ACCTTCCGTT      780
CTGCCCTTGG TTCTGTTCTT TCTTGACTA TCATTGCGC TTTGGCAGCT TCTACTTTAC      840
AAATCGTAAT TGGTATCTTC ACAGCTATCA TTGCCAACCA ACCATTTATC AAAGGAAAAC      900
GTATCTTTGG TGTATTTTC CTTCTTCCTT GGGCTGTCCC AGCCTTCATC ACTATCTTGA      960
CATTCTCAAA CATGTTTAAC GATAGTGTG GTGCTATCAA CACTCAAGTA TTGCCAATCT      1020
TGGCTAAATT CCTTCCTTTC CTTGATGGAG CTCTTATTCC TTGGAAAACA GACCCAACCT      1080
GGACTAAGAT TGCCTTGATT ATGATGCAAG GTTGGCTCGG ATTCCCATAC ATCTACGTTT      1140
TGACCTTGGG TATCTTGCAA TCTATTCCTA ACGACCTTTA CGAAGCAGCT TATATTGACG      1200
GTGCCAACGC TTGGCAAAAA TTCCGCAACA TCACTTTCCC AATGATTTTG GCTGTTGCGG      1260
CACCTACTTT GATTAGCCAA TACACCTTCA ACTTTAACAA CTCTCTATC ATGTACCTCT      1320
TCAATGGTGG AGGACCTGGT AGTGTCGGAG GTGGAGCTGG TTCAACCGAT ATCTTGATCT      1380
CATGGATCTA CCGTTTGACA ACAGGTACAT CTCCTCAATA CTCAATGGCG GCAGCTGTTA      1440
CCTTGATTAT CTCTATCATT GTCATCTCAA TCTCTATGAT CGCATTCAAG AACTACACG      1500

```

CATTTGATAT GGAGGACGTC TAAGATGAAT AACTCAATTA AACTCAAACG TAGACTGACT	1560
CAAAGCCTTA CTTACCTTTA CCTGATTGGT CTATCAATIG TAATTATCTA TCCACTGTTG	1620
ATTACCATTA TGTACGCCTT TAAAGCAGGT AACGTCTCAG CCTTTAAACT AGATACTAAT	1680
ATCGACCTCA ATTTTGATAA CTTTAAAGGC CTCITCACTG AAACCTTGTA CGGTACTTGG	1740
TACCTCAACA CTTTGATTAT CGCCTTAATT ACCATGGCTG TTCAAACAAG TATCATCGTA	1800
CTTGCTGGTT ATGCTTACAG CCGTTACAAC TTCITGGCTC GTAAACAAAG TTTGGTCTTC	1860
TTCTTGATCA TCCAAATGGT GCCAACTATG GCCGCTTTGA CAGCCTTCTT CGTTATGGCG	1920
CTTATGTTGA ACGCCCTTAA CCACAACCTG TTCCTCATCT TCCTCTACGT TGGTGGTGGT	1980
ATCCCGATGA ATGCTTGGCT CATGAAAGGC TACTTCGATA CAGTGCCAAAT GTCTTTAGAC	2040
GAATCTGCAA AACTAGACGG TGCAGGACAC TTCGCCGCT TCTGGCAAAT TGTCTACCA	2100
CTTGTCGCC CAATGGTTGC CGTACAAGCT CTCTGGGCCT TCATGGGACC TTTCGGGGAC	2160
TACATCCTCT CTAGTTTCTT GCTTCGTGAG AAAGAATACT TTAGTGTGC CGTAGGTCTC	2220
CAAACCTTCG TTAACAATGC GAAAACTTG AAGATTGCCT ACTTCTCAGC AGGTGCTATC	2280
CTCATCGCCC TTCCAATCTG TATTCTCTTC TTCTTCTAC AAAAGAACTT TGTTCAGGA	2340
CTTACAAGTG GTGGCGACAA GGGATAATTT ATCCCGCCA CCCTTTTCA TTTTATACTC	2400
TTCGAAAATC TCTTCAAACC ACGTCAGCTT TATCTCCAAC CTCAAAGTTG TGCTTTGAGC	2460
AACCTGTGGC TAGTTTGCAC TTTGATTTC ATTGATTATT AGCAATTGTC ACTGTAAATA	2520
ATATCCTTGT AGCAAGCAAT TTTTCTCCTA GACTTGAAAT AAAGCGCATT TCTCTATATA	2580
ATAATACTCA TATAGAAAAC ACCTTTTAGA AAGATACCTA TGCTTCCATA TCCATTTTCC	2640
TATTTTTCAA GTATTTGGGG GGTTCGTAAG CCCCTGTCCA AACGTTTCGA GCTCAACTGG	2700
TTTCAACTTC TCTTTACCAG TATCTTCCTT ATCAGCTTGT CTATGGTACC CATTGCTATC	2760
CAAAACAGCT CCCAGGAGAC CTATCCGCTA GAAACTTTTA TCGATAATGT CTATGAACCT	2820
CTGACAGATA AGGTGTGCCA GGATCTCTCT GAACATGCTA CAATTGTCGA TGGCACATTA	2880
ACTTATACTG GAACAGCTAG TCAAGCCCCT TCTGTTGTGA TTGGTCCAAG TCAAATCAAG	2940
GAATTACCTA AGGACTTGCA ACTGCAATTTC GATACAAATG AGCTAGTCAT CAGCAAGGAA	3000
AGCAAGGAAC TGACCCGCAT CTCTTACCGA GCCATTGAGA CTGAGAGTTT CAAAAGCAAA	3060
GACAGCTTGA CCCAAGCAAT TTCTAAAGAC TGGTACCAAC AAAATCGTGT CTATATCAGC	3120
CTCTTCCTAG TTCTCGGTGC GAGCTTCCTC TTTGGTTTGA ATTTCTTTAT CGTCTCTCTT	3180
GGAGCTAGCT TTCTCCTTTA TATCACCAAA AGATCAGGCC TCTTTTCATT TAATACCTTT	3240

342

AAAGAGTGCT ACCATTTTAT CTTGAACTGT TTAGGATGTC CGACTCTGAT TACACTTATT	3300
TTGGGATTAT TTGGCCAAAA TATGACAACC CTGATTACTG TACAAAATAT TCTTTTGT	3360
CTGTATCTGG TCACTATCTT TTATAAAACA CATTTCCTGT ATCCAAATTA CCATAAATAG	3420
GAGATTTTAA TGCCCGTTAC GATTAAAGAC GTGGCCAAGG CTGCTGGTGT TTCGCCTTCA	3480
ACCGTAACCC GTGTTATTCA AAATAAATCA ACCATTAGCG ACGAAACAAA AAAACGTGTT	3540
CGCAAAGCTA TGAAGGAAC TCACTACCAC CCAAACCTCA ACGCTCGTAG CTTGGTAAGC	3600
AGCTATACTC AGGTATATCGG ATTAGTTCTT CCTGATGACT CAGACGCCTT CTACCAGAAT	3660
CCTTTCTTTC CATCGGTCTT ACGTGGCATC TCTCAAGTCG CATCTGAAAA CCACTATGCC	3720
ATTGAGATAG CAACAGGGAA AGATGAGAAG GACGCTCTCA ACGCTATTTC ACAAATGGTC	3780
TACGGCAAGC GTGTAGATGG GCTAATTTTT CTCTATGCCC AAGAAGAAGA CCTCTCGTA	3840
AAACTCGTCG CAGAAGAACA GTTCCCTTTC CTATCTTAG GTAAATCTCT ATCTCCTTTC	3900
ATCCCACTTG TCGACAACGA CAATGTCAA GCTGGTTTGG ATGCGACTGA ATATTTCATC	3960
AAAAAAGGCT GCAAACGCAT TGCCTTTATC GGAGGAAGTA AAAAGCTCTT CGTGACCAAA	4020
GACCGTTTAA CAGGCTATGA ACAGGCGCTT AAACATTACA AACTTACCAC TGACAACAAT	4080
CGCATCTACT TTGCCGACGA GTTCTGGAA GAAAAGGGCT ATAAATTTAG CAAGCGATTA	4140
TTCAAGCACG ATCCACAAAT TGATGCTATC ATCACAACCG ATAGCCTCCT AGCTGAAGGT	4200
GTTTGTAAC TATTTGCCAA ACACCAGCTG GATGTCCTG TTCTCAGCTT TGAATCGGTT	4260
AATCCCAAGC TCAACTTGGC AGCCTATGTC GATATCAATA GTTTAGAGCT TGGTCGTGTT	4320
TCCCTTGAAA CTATTTCTCA GATTATTAAT GATAATAAAA ACAATAAACA AATTTGTTAC	4380
CGTCAATTGA TCGCCACAA AATTATCGAA AAATAAGAGA CTGGGC AAAA AGTCGTTAAA	4440
AGCAAAAACG CATACTATCA GGTATTGAAA AAACCTTGATA CTATGCGTTT TATTGTGGGA	4500
AGATTTACTT CCTTTTCTAC TGAAATTGAG TCTTTTCCCA AGATCTTTTT ATACTCAATG	4560
AAAATCAAAG TGCAAAC TAGAAGCTAGCC GCAGGTGCT CAAAACACTG TTTTGAGGTT	4620
GTAGATGAAA CTGACGAAGT CAGTAACCAT ACCTACGGCA AGGTGAAGCT GACGTGGTTT	4680
GAAGAGATTT TCGAAGAGTA TTAATCACTA ATTATCTATC TCAACAAATC TTCCTAGAAT	4740
ATGAACATTT TCCGAGACAG AGACAAAGGA GCTTGATCC ACTTGTTGTC TAATCTGTTT	4800
AAATTCATTA AACTCTGCAC GTGTAATGAC AGTGATTAAA ACTGCCTTTC TCTCGTGATT	4860
ATAGGTTTCT TCTGCATCGT GGATCATGGT TGCTCCGCGG TGCAATTTTT TATGGATTTT	4920
TTCAATTACC TTCTCTGGAT GATTGTGAC AATCATGGCC TGCATACGCT TTTGCTTAGT	4980
AAAGACTGCG TCTGTCACAC GGCTAGAGAC AAAGATGGTA ATCATAGAAT AAAGAGCGTA	5040

343

TTTCCAACCA AAGGTCAAAC CTGCTATCAG CATGATAGTT CCATTTACCA AGAAAGAAAT	5100
ACTACCGACA TTCTTACCCG TTTTCTTACG AATAGTCAGG CTGACGATAT CCGTCCCACC	5160
ACTGGAGATA TTGTTTCGAA GAGCAAAACC AATCCCCAAA CCCATAACAA CACCCCCAAA	5220
AAGGGAATTG ATAATGGGAT CCTCTGTCAA GGTGCCCACA GGGACAAACT GGATAAGAA	5280
GGAACTCATA GATACCGTGA TAAAGGTAAA GACGGTGAAC TTATGGCCAA TCTGATACCA	5340
AGCTAAGACC ATCAAAGGGA AGTTAATGGC GTAGAAGCTT AGCGAAATCG GAATATGAAA	5400
ACCAAACCAG TGATTACTCA AGGCAGAGAT AATCTGTGCC AGACCTGTTG CACCACTCGA	5460
ATACACATGC CCTGGTTGGA AAAAGAAATT AACTGCTACT GCTGATAAAA AACCATAGAC	5520
CAGAGAGGCC GAAATCTTCT CATCATACTT TTCTCGAGAG ATACTTTGTA AGACACGTAA	5580
AATTTTTATC TGATAAGCAA AGCGGCGCAG ATAATAGCGC CACCGCTTAA TTCGTTTTGT	5640
TTGTTTCATC TTCTTCTACT TGTAAGCTGA GTTCCTCTAG TTGTTTGAGA GCGACTGTTG	5700
ATGGAGCTTG TGTCATTGGG TCAGTTGCCT TGTGTTCTT AGGAAAGGCA ATGACTTCAC	5760
GGATATTTTC TTCTCCAGCA AGCAACATGA CAAAACGGTC AAGCCCGATA GCCAAACCAC	5820
CGTGTGGTGG GAAACCATAG TCCATGGCTT CAAGAAGGAA ACCAAACTCG TCATTGGCTT	5880
CTTCAGTTGA GAAACCAAGA GCCTTGAACA TGCCTTCTTG AAGTCTTTT TGGTTGATAC	5940
GAAGGCTACC ACCACCAAGC TCATAACCGT TCAAGACGAT ATCGTAAGCA ATGGCAGCAA	6000
CCTTAGCCAA ATCACCCTCT AATTCAATGAG CAGTCTCTTC CTGTGGAAGT GTGAAAGGAT	6060
GGTGGGCGCT CATGTAGCGG CCTTCTTCTT CAGACCATT C AACATCGGC CAGTCAACCA	6120
CCCAAAGGAA GTTGAACCTA TCATTATCAA TCAAGCCAAG CTCTTTAGCA ATACGTCCAC	6180
GAAGGGCACC CAGTGTGCA TTAGCCACTT CAAGCGTATC CGCCACAAAG AGAACCAAGT	6240
CCTTATCTTC AAGAACAAGC GCTGTTGTCA ATTCTTCTTG GATACCAGTC AAGAACTTGG	6300
CAACTGGTCC GTTTAATTCT CCATCAACCA CCTTGACCCA AGCAAGACCT TTGGCACCAT	6360
ACTGTTTGGC TACTTCCGTC ATCTTGTCGA TGTCTTTACG TGAATAGTTG TCCGCAGCTC	6420
CTGTGACCAC AATCGCTTTT ACAGCAGGTG CTTCTGAAA GACTTTAAAG TCTACACCTC	6480
GGACCACTTC TGTCAGTCC TGAAGCAACA TGTCAAAACG AGTATCTGGC TTGTCAGAAC	6540
CGTAAAGAGC CATAGCATCA TCGTATTTCA TACGAGGGAA TGGTAGCGTT ACTTCGATGC	6600
CTTTTGTTTC CTTTCATCAG CGCGCGATCA AGCTTTCTGT AATATCTTGG ATTTCTTGCT	6660
CAGTAAGGAA GGACGTTCC AAGTCGACCT GAGTAAATTC AGGCTGGCGG TCTCCACGCA	6720
AGTCCTCGTC ACGGAAACAT TTAACGATTT GGTAGTAACG GTCAAAACCA GCATTCATCA	6780

344

AGAGCTGTTT CGTGATTTGT GGACTTTGAG GAAGAGCGTA AAAATGCCCC TTATTAAACAC	6840
GAGACGGCAC TAAATAATCA CGCGCCCTT CAGGCGTTGA CTTAGAAAGG AATGGTGTCT	6900
CCACGTCGAT AAACCTCCAAC TCATCCAAGT AGTTGCGGAT AGAGTGGGTC ACCTTGGCAC	6960
GAAGTTTAAG ATTTTCCAAC ATTTCTGGAC GACGAAGGTC AAGGTAACGG TAACGCAAAC	7020
GTGTATCGTC ATTTGCCTCA ATGCCATCCT TAATCTCAAA TGGTGTGTC TTAGCTGTGT	7080
TAAGCACAAT AAGAGCTGTC ACGTTTAACT CAACCGCACC AGTTGGCAAC TTATCATTTG	7140
CTTGTCACGC GCAGCGACCT GACCAGTCAC CTCAATAACA AATTCGCTAC GAAGGcTTTC	7200
AGCTGTTGCC ATAACCTCTG CAGATACTTT TTCAGGGTTG ATAACCAACT GCATGATTCC	7260
TTACCGTCA CGAAGATCGA TAAAGATCAA ACCACCAAGG TCACGACGAC GGCCAACCCA	7320
TCCTTTCAAG GTTATTTCTT GTCCGATGTG TTCTCACA ACACGACCAG CATACTACT	7380
ACGTTTCATT ATTTCTCTCC TCTTTTATTC TGTACTATT TTACCATAAA AGCGCAGCTC	7440
TTATGAAAA TCATCAGAAA AGTTTGCCAG TCTTTAAAAG TCAGGTGAAA GCCCTAAAAA	7500
TTAGCGCTAA TACTCTTCGA AAATCTCTT AAACCACGTC AGCGTCGCCT TACCGTATGT	7560
ATGGTTACTG ACTTCGTCAG TTTTCATCTAC AACCTCAAAA CCATGTTTTG AGCTGACTTC	7620
GTCACTTCTA TCCACAACCT CAAAACAGTG TTTTGAGCAA CCTGCGGCTA GCTTCCTAGT	7680
TTGCTCTTTG ATTTTCATTG AGTATAATAC AAAAATCCGA TGAACCTCAC CGGACTCTTT	7740
TATTTTGAAT TTTTGCCTGC TTTACGCTTT TCAGCGATTT CGGCTGCCTT TCGAGGCAAG	7800
ACAATTTCCG TTATGTAAGC CGTCCCAAAA CGCAGTACAC CTGCAATAGG AGCAAAGACA	7860
ACTGCTAGAT AGTTATAGAA GAAATCGCCT TTGAAGGCAT AAGCTAGCGC TCCAATGATG	7920
AAAAATAGAA CGACTGCCTG AATCACTGCT AATAAAATTA CTCGTTTCAT GTGACCTCCT	7980
GACTCTATTA TAGCATGAGA ATCATCAAAA AGCCGACTAA ATTATTCAAA GCGTGAAGAG	8040
AAATACTGTA GACCAGACCT TTTCTGCTAA TGTAAGCCAA ACCCAAATA AAACCAAGGC	8100
TAAAATAGAC AAAAAATTGT TGCACATCAC CTGGAATAATG AATCAAGGCA AATAGAAGAC	8160
TAGATACCAG AAGAAAAATC AGGGTTCGTT TACTATTGTC CTGCTTAGGA AAGAGATAGC	8220
GTGCTAACAT CCCTCTAAAA ACAATCTCTT CCGTCAAAGG AGCAAAAATA ACCACAGCAA	8280
AGAATGAGAA AAGTGGTTGA GACAAGGTCA AGTCTGTCGC TATTTGCTGA TTTACTGAAG	8340
GATCATCTGG CAAGAAGAAT TGAACGACCA GAGATAAGAA CCAAACCAAG ACAGGAAGCC	8400
AAATAAATCG ATTAAAGCCG CTCTTCTCAA TATGAACAGG AGCCTTCTGA TACCATTGT	8460
AAATGCCGTA CACATATACT CCAGCCAAGG CCACATAGAG TAGAGTAACA GCATAGGGTG	8520
AAGCGCTAA AGCAAGCGAC GCAGTCGCGA GCCCCTGAAT AAAGCCATAG ATAAATAAAA	8580

345

AGGATAGAAG GGCTAGAAGA ATCCAGCCAA GGTTTTAAAG TAATTTTCATA GATAACTCCT	8640
TTATTTGAAA TAACGTTTTA CCATAGGTAA CTGCATCACA TTGATATAAA CATGGATGGC	8700
TCCTACAAGC AAGAAAGCTA GTAAGTGAAT CTCTCCTGTC AAGAAAGAAA TGATAATAAG	8760
AAAAATATAT AAGGCTGGTA AGACATATTG GTGTAATTGG AATAAAATTC GAAAACCTCG	8820
TTCCAAATTA GCCTGACGCT CCCCTTCATC ATAAGAATTT ATATAGTTCA AGACATCCTT	8880
TGGTGTAGCG AAAAATTCCA AATCAAACCTG ACGAACAATC GCAATGGTTT TAAAAAGAGA	8940
TTTTTGAGCG ACTAAGAATA CCACAAAGAG TAAGAAAGAA AGGAAAAATG TTTGAGGGTT	9000
TGTATGCAAT ATAATCACCT CACTTAATGA AATAAAAATA GCCAATGGAA TCGCTACACC	9060
TGTAATATTA AAAGCAATGG TTCCAACTC AAGATTCCGA TACATTGCA CATAATAGGT	9120
TTCATTCAGA TCGTCATCCA TTTCTCTTG ATACAAAGAA TGAAATTTTC TGCTTTTCTT	9180
TAAGAAATTG AAAGTCAAAA ACATACTAAT GAAACCTATC AGTAAACAAA TAGCTGATAT	9240
CCATGGCATC AAGGCTTTTA CATCTAAAT AATTTCGTGG GATTGACAC GTGCCTTAAA	9300
CATCCCTACA AACATGCCA AGAACCCCTC AAGACAATAG ACATCAAAA TAACAATCTA	9360
CGTTTCTTTT TCATATTCAT TCTCCTTTT CACTTGCTAG ATTTTGGAT TTCTTTTCAA	9420
TCCATTCAAT TACTGGGATG AGAGCAAAGT AGACCCAAAC AAATTGGTCG CTTTGATAGG	9480
GATTAAACCA GCTTAGGTCC ATCCCAATCA GTAGAAATAC GCTGACTAAT AAAGCTATGA	9540
CCACTACATA ATAAATCACT TTATACTGT TCATCACTCG TCCTCCTCCA AACGAAATAC	9600
CGATTGCACT GTTTCGTGA AAATTTGAGA TATTTTCAGG GCAATGATAA TGGATGGGGT	9660
GTACTCATCC CGTCTAGTA GGCTAATGGT CTGTCTGGAA ACCCCTGCCA GTTTGGCTAG	9720
GTCGGTTTGA TTGAGACCAT CGCGAGCTCG AAGCTCTTTT AGACGATTTT TTAGTTGCAT	9780
GTTACACACC TACTCTCCGT CAAATTCAAC GGTTCGATA TCCTCAATAC GTTGCAACTT	9840
GAATTTTCT TTTCCCGTAT TATCTACACG TCGTAGCTTT ACCCATTCCT CATCAACATC	9900
CACAACTTCC CAGTTATCTG GCCCAATATA CACTCCCGTT ATAATTGGTT CCTTTCCAAT	9960
CATTCTTGT AATAATCTCG ACATTTCTGC GTTTCCTTTC TCTTTTCGCT CAAGTCTTTT	10020
GATTTTATC TCTAGTTTCT TGATTTTTC AGAATTATTA GAATAAAGA AAATCATAAA	10080
TAGTATAAAT CCTAGTACCC ACATTATAAC TCCTTCTGC TTCCTATTTC TTAAGTGAA	10140
TTCATTGTAA CATATCTTTT TCTTTTGGAC AAGTATAGTT GTCAAAAAAA TTATGATTTT	10200
TGTCATTTTG CAAAAGAAAA AGGTCAGGAG TAGGTTCTG ACCACTTTAT CTATCATTA	10260
TACTCTTCTA AAATCTCTC AAACCACGTC AGCTTCACCT TGCCGTAGGT ATGGTTACTG	10320

346

ACTTCGTCAG TTTCATCTAC AACCTCAAAA CCATGTTTTG AGCTGACTTC GTCAGTTCTA	10380
TCCACAACCT CAAAACCATG TTTTGAGCTG ACTTCGTCAG TTCTATCCAC AACCTCAAAA	10440
CCATGTTTTG AGCTGACTTC GTCAGTTCTA TCCACAACCT CAAAACAGTG TTTTGAGCAA	10500
CCTGCGGCTA GCTTCCTAGT TTGCTCTTTG ATTTTATTG AGTATAAAAT CCTAGTTTTT	10560
CAAAGATTTC TGAGAAGTTT TGGCTGATTG TCTCAAGTGA CACTTGCACT TCTTCTCGGG	10620
TTTGTTGTTT CTTGACCGTC ACTTGTCGCG TTTGACTTC GCTCTCTCCT AGGGTGATGA	10680
GGGTCTIAGC CGCAAAGACA TCGCTGACT TGAAGTGAGC TTTTAGTTTA CGGTGAGGT	10740
AATCAGCTC TGCTTTGAAA CCTTGTTGGC GAAGAGCCTG TACCAATTCC AAGGCCTTGA	10800
TATTTGCCCC TTCGCCAAG ACTGCGATAT AGACATCTAG GCGTTTTTCG ATAGGGAGGG	10860
TCACACCTTG CTTTTCAAGG ATGAGAAGCA GCGCTCTAC ACCAAGTCCA AAACCAAATC	10920
CAGCAGTTTC AGGGCCTCCA AAGTAAGCAA CCAAACCATC GTAGCGACCA CCCGCACAGA	10980
CGGTGAGGTC ATTGCCCTCA ATCTCTGTGA TAAACTCGAA AATGGTGTGG TTGTAGTAGT	11040
CCAGACCACG CACCATATTG GTATCGATGA TGTAATCTAC TCCAAGATT TCCAACATCT	11100
GACGCACAGC ATCAAAATGA GCTTGGCTTT CTTCATCAAG AAAGTCCAAG ATAGACGGCG	11160
CATTCTCTAC TGCCACCTTG TCTTCTTTTT CTTAGAGTC CAAGACACGA AGAGGATTTT	11220
CCTCCAAGCG ACGTTGGCTA TCCTTAGACA AGGTCTCCTT GAGCGGTGTC AAATAGTCAA	11280
TCAAGGCTTG GCGGTAGGCT GCACGGCTCT CAGGATTTCC AAGAGTGTG AGGTGCAATT	11340
TGACACCTTG AATACCGATT TCCTTCAAAA AATGGGCTGC CATAGCGATT GTTTCACAT	11400
CGGTAGCTGG ATTGCTAGAG CCAAAACACT CAACACCAAT CTGGTGGAAT TGGCGCAAGC	11460
GCCCTGCCTG TGGACGCTCA TAACGGAACA TAGGTCCCAT GTAGTAGAAC TTGCTTGGCT	11520
TTTGCACTTC TGGGGCGAAA AGTTTATTTT CCACATAGGA ACGGACAACG GGTGCAGTTC	11580
CTTCTGGACG GAGGGTAATA TGACGGTCAC CCTTCTCATA AAAATCGTAC ATTTCTTTGG	11640
TTACGATATC CGTTGTATCT CCGACAGAGC GACTGATAAC CTCGTAATGC TCAAAAATAG	11700
GCGTGCGCAC TTCTGCATAG TTGTAGCGTT TGAAAATCTC ACGGGCAAAG CCCTCAACGT	11760
ACTGCCACTT AGCAGACTCA GCAGGTAAAA TATCCTGCGT TCCTTTTGGT TTTTGTAATT	11820
TCATAGGGAA TCCTCTTTAA ACTTAATAGT CTTATTTTAC CATAAATAGA GGGATTAAAA	11880
CAGTAAGAAA AAAATTAGGA TTTAGATATC ATTTTGTAGA TTAAGAATTG TCAAAAAAAT	11940
AGCTAGCAAG GAAAGACCAA CAAATAGCAT CCAAGTCAAC TGTATATTCC ATACGGCTAC	12000
TAGTGAAAAA CAAGCTGTTT CCACAGGTAT GGATAAGGTA AACAAATAGAC CTAaaaaaatt	12060
ACTAGTACGA GCTAGAACCT CTGGAGCTAG ATTTTTCATG AGCATGGCAC TAATCTTTGG	12120

347

TTGAACTTTA CCAGACACAT ACAGAGTAAA GAAGAGAAAT AGCAAACCAA GCACGACTTG	12180
ATTGAATAAA TTAGCCAAAC CAACTAGACT AAGTCCTACG GTCTCCCACA TCATCAATCT	12240
AGGCAAGGAC TGCTTCCCAA AATAATCATT GCCCGTAAGG CTA CTGATGA TGACTGATAC	12300
TAAACACAG AATTGATTGA TAAATAGTGC CTCTGTATAA GAAAAATTCA AGAGAGAATG	12360
GCTCAAAAAG AAGATATTAT AAATTCACC CAAAGCGCCA CCCAAGGAA' TAATAAGCAA	12420
GACAGCAAAG AGCATAAAAC CAAAGTTTTT CTGTCCACTT TTAAGAAAAA CGAGACGTAA	12480
ATTCGGTAA ATTGTTAGGA ACTGGTCTTT GATAGAAAGC TTCTCATTTT TTAAGTTTTC	12540
ACCATCAGCA GATGACATTG ACAGGCTCAA TTTGCTTTTT CCTAAAAAGA GGATAGTGGC	12600
TGATACTAGG AAAAAGCAGG CATTGATTCC CGCAACGAGA GAAAAATTGT TGACCGATAG	12660
AGCTAAGAGC CAGACTCCGA AAGCTTGACC ACCAATAGCT GAAATATAGG TGATGAAGT	12720
TGAAAAAGAA TAAGCCTCCA TCAGATCATC TTCAGCTACT TTTTCCTTAA TAAGAGGCAT	12780
ACGCAGGCCA CCTGCAAAAT CACTGATGAT ATCTACTAATG ACATTGATCA AACACAGGCT	12840
AGAAAAGGCA AAGAGACTAG CTTGCTGAAC AACTAGGGCT GCTAGAAAAA ATAGAACCGC	12900
CTGAAACAAA CCGCTATAGA CCATCCATTT GACCTTGTC CTCGTGTAAT CTGCCCCGAAT	12960
CCCTGCAAAA ACTGTAAAGA GGGTCGAAG AATCATGACA ATATTCGCCA TAGCAACAGC	13020
AAAAGATGCT TGTGACAAGG TCGATGCATA GACGATAAAG ACCAGGTGA AAATCGAAAC	13080
ACCAAAGCA TTGAAGAAGC GTGG	13104

(2) INFORMATION FOR SEQ ID NO: 35:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 19250 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: double
 - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 35:

CCGGCAAAT AGTTTGAAC TTTTCATCAT TTTCTCCTTT AAAACTTTCT CTCCATTATA	60
GACTCTTTTC AGAAAGTTGT CAACAGAATT TTCAGAATTT TTGAAATTA TTTTTCAAAC	120
AACATCTTTG CAAAAAATAT GAATATCGTA AGCGCGTCAT AACAAAGTAT CTATCATTCA	180
TGGAGCTCCT CCTGTATACT ATTAGTAAAG TAAATATTGG AGGATATTTT AATGCCACAA	240
CCTATTGTTC CTGTAGAGAT TCCACAATCT CGTCGTTTTC ATTCTAAAAA GAGAAATGAT	300
ATTCrCTTA AAATTCGTAT TGGCAAGCTT GAAGTAAGTT TTTTCAATC TCTCAATCTC	360

348

GAAATGATAG AACAGCTTTT GGATAAGGTG TTGCTCTATG ACAATTCATC TATCTAGCCT	420
AGGGCAGGTC TATCTCGTGT GTGGGAAAAC TGATATGAGA CAAGGAATCG ATTCACTGGC	480
TTATCTCGTT AAAACCCACT TTGAATTGGA TCCTTTCTCC GGTCAAATCT TTCTCTTTTG	540
TGGTGGACGT AAAGACCGCT TTAAAGTCCT TTAAGTGGAT GGTCAAGGAT TTTGGCTACT	600
ATATAAACGC TTTGAGAACG GCAGACTGAC TTGGCCAGT ACAGAAAAGG ATGTCAAAGC	660
TCTCGCACCT GAACAAGTAG ATTGGCTGAT GAAAGGCTTT TCTATCACTC CAAAAATATA	720
GTAGATTGAA ACTAGAATAG TACACCTCTG CTTCTAAAAC ATTGTTAGAA ATCGATTTTA	780
CTGTCTGAT CGATTTGTCC TGTATTATT TCATTTTACT ATAAATCCAT CAGAAAGTCG	840
TGATTTCTAT TGAAATGAGG ACTTTCTTTT TATACTCATC TGCTTTCAA AAGCACTCTA	900
GTCCATCTCC GATTAACGAT GGACTTTATC ACCTCCTTCT CCAGTCCTTG TATAACATCT	960
TGAAGTTGAT TCATGACATC TTCCAAAGTT CGAAAGGCTT TATTCCTAAA TCCACGTTTA	1020
CGAATCTCTT TCCACACTTG TTCAATGGGG TTCATCTCTG GTGTGTATGG AGGAATAAAT	1080
GCAAAGCCAA TATTAGTCGG AATCTTTAAG GTACTTGATT TATGCCATAT AGCATTTGTC	1140
ATAACGAGTA AAAGATAATC ATCTGGATAA GCTTGTGAAA GCTCCTATTC CTAAAGCCCC	1200
TTTATAACCT CTGCGAGAG AGACTATTGA CTCAGCCCTT ACTTCATGCG GATGAAACCT	1260
CCTATCGGGT TCTAGAGAGT GATAGCCATC TGACCTACTA TTGGACTTTT TTGTCAGGTA	1320
AAGCAGAGAA ACAAGGATTT ACGCTTTACC ACCATGATCA GTGTGGAAGT GGTTCAGTAG	1380
TACAAGAATT CCTAGGAGAT TATTCTGGCT ATGTTTATTG TGATATGTTG CGGCAGTAAC	1440
TTAGGACTTT AGTCTCTAG TTCTGCCTAT GCGATAGCAG TCCAAGGTTT AGGAGTAAGG	1500
CGACCGTAAG CTGTGTAAAC TGCGAACAGC TAGAAGCTTA TCGTCAACTG GAAGAAGCTG	1560
CACTTGTTGG ATGTTGGGCG CATGTGAGAA GGAAGTTTTT TGAAGTGCCC CCCAAGCAAG	1620
CAGATAAATC ATCCTTAGGA GCTAAAGGTT TAGCCTATTG TGATCAGTTA TTTTCCTTGG	1680
AAAGAGACTG GGAGGCTTTG CCAGCTGATG AACGGCTACA GAAACGTCAA GAACATCTCC	1740
AACCCCTACT GGAAGACTTC TTTGCTTGGT GCCGTCGTCA GTCAGTTTGA TCGGGTTCAG	1800
AACTAGGAAG GGCAATTGAA TACAGCCTCA AGTATGAAGA AACCTTTAAG ACCATTTTAA	1860
AAGACGGACA TCTGGTCCCT TCCAATAATC TAGCTGAACG CGCCATTAAA TCATTGGTTA	1920
TGGGACGGAG TAAAAGAGTC CAGTGGACTC TTTTAGCCTA AGCTCAGTTT AAAAAACGA	1980
GGGTGGTTAT TTTTAAAAAA GCGAGGGTGG TTATTTTCTC AAAGTTTGA AGGAGCTAAA	2040
GCAAGAGCTA TTATTATGAG TTTGTTGGAA ACAGCTAAAC GTCATCAATT ATAGTGCCTT	2100
GAATCTATAA CAGTACGCAT CGACTGCTAA AATATTTCTA TAAATCAATT TTCCTTCTCT	2160

349

AATCGATTG	TTCATATCTT	ATTACAATCC	ATTATAAATA	GCGAGAAATA	TCTATCCTAT	2220
CTTCTAGAA	GTCTTCCAAA	CGAGGAAACT	CTCGTAAACA	AAGAGGTTTT	AGAGGCCTAT	2280
TTACCGTGA	CTAAAGTTGT	ACAAGAAAAG	TGCAAATAAG	AAATCTCCAG	ATTAGGAACT	2340
ATATATGAGT	TCTCTAGTCT	GGAGATTTTT	CAATAGACTT	CGTTATTGGG	CGGTACTTTT	2400
CGAAACTTTG	AAAACCTCAA	AAAACGGATT	TTTATCGCTC	TGAACATCAA	AAAAGAAAGG	2460
ACGAAATTTG	TCCTTTCTCA	AGCTTAGCTT	TTCTTCAACC	CACTACAGTT	GACAAAGAGC	2520
CCTTTATTTCT	ATCAAACATG	AAGCGCAAAA	ACAAGCCAAA	AATCCGATAG	AATGGCTATC	2580
CCTCGACTAT	CAAGTAAGAC	ATTTCCATCA	AATACGTTCA	ATTTTACTCT	TGTTCTACTA	2640
AGAATTAATC	ATCTCGTTTT	GATTTATTAA	AAATATACAA	TTCAGCTTTT	CCTCCAAACT	2700
ATTTTATCCA	CTATCCCTGT	ATAGCTCTGT	ATTATCTTAA	CAACTTTAGT	AGAGACATTT	2760
TCCTCAACAT	AATCCGGAAC	CGGTAATCCA	AAATCCTCAT	CTTGTGCCAA	GCTAACAGCA	2820
GTTTCAACTG	CTTGAAGAAG	AGAATTTTCA	TCAATGCCTG	CCAAAATAAA	TCCTGCCTTA	2880
TCTAAGGACT	CAGGACGTTT	TGTACTTGTA	CGAATACATA	CAGCGGGAAA	AGGATAACCT	2940
TGACTAGTAA	AGAAACTACT	TTCTTCCGGT	AAAGTTCCCG	AATCAGATAC	TACAACAAAT	3000
GCATTTCATCT	GTAACAATT	ATAGTCATGG	AATCCTAGTG	GCTCATGCTG	AATCACACGT	3060
TTATCTAGTT	TAAAACCGCT	CTCTTGTAGC	CTTTTCTTTG	ATCTAGGATG	GCAAGAATAT	3120
AAGATTGGCA	TATTATACTT	TTCAGCTAAT	TGATTAATTG	CTGTAAAGAG	AGAAATAAAA	3180
TTTTTATCTG	TATCAATATT	TTCTCTACGG	TGAGCTGAAA	GTAAGATATA	ACCTCCTTTT	3240
TTCAATCCCA	AACGTTTCATG	GATATCTGAA	GACTCAATAG	CAGATAAATT	TTTATGTAAC	3300
ACTTCTGCCA	TAGGAGAACC	AGTTACATAT	GTGCGCTCTT	TAGGTAAACC	ACACTCATGT	3360
AAATACTTAC	GTGCATGTTT	AGAGTATGCT	AAGTTAACAT	CTGAAATAAC	ATCAACAATC	3420
CGACGATTAG	TCTCTTCCGG	TAGGCACTCA	TCTTTACAGC	GATTGCCAGC	CTCCATATGA	3480
AAAATTGGAA	TATGTAAACG	CTTGGCAGCA	ATAGCTGATA	AACAAGAATT	TGTATCCCCT	3540
AAAATCAATA	AAGCATCTGG	TTTAATTTGA	TTCATCAATT	TGTATGAAGT	ATTAATAATA	3600
TTCCCTACAG	TAGCACCAAG	ATCATCTCCA	ACAGCATCCA	TGTATACGTC	CGGAGTGTCT	3660
AACCCTAAAT	TATCAAAGAA	AATACCATTT	AAATTGTAAT	CATAGTTTTG	TCCAGTATGT	3720
GCCAAAATAA	CATCAAAATA	CTTTCGACAT	TTAGTGATAA	CACTACTTAG	ACGTATAATC	3780
TCIGGACGTG	TTCCACAAT	AATCAATAAC	TTAAGTTTGC	CATTATCTTT	AAAGTGAATA	3840
TCACTATAAT	CTGTCTTAAT	TTTCATTTAT	TTCTCCACTT	GTTCAAAAAA	AGTATCTGGA	3900

350

TGTCCTAGGAT CAAATGACTC ATTAGCCAC ATGACAGTAA TTAGATTTC TGTATCAGAA	3960
AGATTAAATA TATTATGTGC ATAGCCCGGT ATCATATGTA TTGCTTCAAT CTTATCGCCC	4020
GACACTTCAA AGTTCAGAAT AGGATACTCT TGACCGTTTT CATCCAGCCC TATCCTACGC	4080
TCTTGATTA AAGCACGACC AGAAACAACC ATGAAAAATT CCCACTTAGA ATGATGCCAA	4140
TGTTGCCCTT TGGTAATGCC AGGTTTAGAA ATATTAACAG AAAATTGACC CGTATTTTCT	4200
GTTTTTAATA ATTCCGTAAA ACTACCTCGT TCATCTATAT TCATTTTTCAG AGGAAACTTA	4260
AACTTATCTA CTGGTAAATA AGATAGGTAG GTAGAATACA ATTTCTTTT AAACGATCCC	4320
TGAGGAATTT CAGGCATAAC TAAACTATCA GGCTGTTTTT TAAATGTTTC TAATAGAGAG	4380
ACAACTCTCT CTAAGGTGTC ACGATGAGTC GTTGGTACGT AGCAGTAGTT TCCTGATGGG	4440
CTAGGTAAGA TTTGTAATCC ATCTAGATTA CAACGATGAG GATTTCTTTC CAATGCAGTT	4500
AGACACTCTT GTATCAAATC ATCAATATAC AGCAACTCCA ATTCTACACT TGGATCATTT	4560
ACTTGAATAG GTAAATCGTG AGCTAGATTA TAACAGAAAG TTGCTACAGC AGAATTGTAG	4620
TTAGGACGGC ACCACTTCCC ATAAAGATTC GGGAAACGGT AAATAAGAC AGGTGCTCCC	4680
GTTTTCTTTC CATATTCAA GAAGAGTTCT TCCCCTGCTA GCTTAGATTG TCCATATATA	4740
GAGTTTGAAA ATCGGCCTTC TAAACTAGCT TGAGTAGAAC TTGAGAGTAG AACAGGACAA	4800
GTGTTTTCAT ACTTTTCTAA AATCTCCAAT AATCTACTTG AAAAACCGTA ATTTCCCTCC	4860
ATGAATTCAT CAGGATTCTG TGGACGATTG ACACCAGCTA AATGGAATAC GAAATCGGCC	4920
TTCTTACAAT ATTCATCTAA TAAATCGGA TCTGTATCAC GATCATACTG AAAAATCTCT	4980
CCAACTCTTA AATTAGGACG AGTCCCTATCT CGTCCATCTT TCAAAGCTTC CAGAGTACAG	5040
ATAAGATTTT TFCCTACAAA TCCTTTCGCT CCTGTGATTA AAATATTTT AATCATGCCC	5100
CCTCCTTATT TTATATGCTG TTTTAATAGT TAACTCTCTC GACAATACAT GATACATTAT	5160
ATATCCTTGA TAATTTTAAT GTATCTTAAA AGATTTTACA TCTCTTCGTC TGCTACCATA	5220
TCACGAATTG CTGTCTGTAT TTCATCTAAT TCTAGCAACT TTCTTTTAAC TTGCTCTACA	5280
TCCATCAAAT CGGTATTATT ACTATTGAAT TCTGTCAACA AATTCTATT CGTACTACCA	5340
TCTTTGAAAT ACTTATCATA GTTAAGATTA CGATTATCAC TAGGAACTCT ATAAAAATCA	5400
CCCAAATCAA TTGCATTTGC GCACTCTTCG TTAGTTAATA GTGTTTCATA CCTTTTTCCT	5460
CCGTGCTCTA TACCTATAAT CTAAATATCT TGTCTGAGG CAAAATTTT TGATACAGCC	5520
TTAGCCAACA CTTCAATCGT ACATGCTGGT GCTTCTGAA CTAGTATATC TCCAGATTTT	5580
CCTTCTTCAA ATGCAAATAA AACCAAGTCT ACTGCTTCTT CCAATGTCAT CACAAAACGT	5640
GTATGCTAG GTTCAGTAAT TGTAAGAGCA TTTCTTGCT TAATTGCTC AATCCAAAGA	5700

351

GGAACGACAG ATCCACGGCT ACACAGAACA TTCCCATAGC GAGTCACACA TATCTTTGTA	5760
TGCTCAGGAT TTACCGTCCT GGAAGTAGCA ACAGCAATCT TTTCCATCAT AGCCTTGGAT	5820
GTTCCCATAG CATTGACAGG ATAAGCCGCC TTATCTGTAG AAAGACAGAT AACTTGCTTT	5880
ACACCAGCTT CGATAGCCGC AGTGAGGACA TTCTCCGTTC CCAAATGTT AGTTTTTACC	5940
GCTTCTACAG GGAAAAATTC ACAAGAAGGT ACTTGTTTAA GAGCAGCAGC GTGAAAAACA	6000
TAATCCACAC CATGCATAGC ATTTTTTACC GAAGCTAAGT CACGCACATC TCCAAGGTAA	6060
AAACGGATTT TCCAGCCAC TTCTGGTACT TTTACCTGAA ACTCATGACG CATATCATCT	6120
TGTTTCTTTT CATCTCGCGA AAATATACGA ATCTCTGAGA CATCTGTTTC TAAAAACGC	6180
TTGAGAACCG CATTCCTAAA TGAACCTGTC CCTCCTGTAA TTAGGAGAGT TTTTCCTGTA	6240
AATGTGACA TATATTACAC TTCTCCTTCT AGTATGTCTG CAATTTTCTT ACAAGCCGTT	6300
CCATCTCCAT ATGGATTTGA AGCTTGACTC ATTGCTTGAT AAAGTGAATC ATTTTCTAAT	6360
AATCTTTTAA AATGCCTATA AATATTATTT TCATCAGCAC CTACAAGTTT CAAAGTCCCT	6420
GCTTCAATTC CCTCTGGACG TTCAGTTGTA TCTCTCATAA CCAAACAGG TTTTCCTAAA	6480
CTTGAGCCT CTTCCTGAAT ACCACCACTA TCTGTAAAA TTAATAACT TCTTGATAAA	6540
AAATGTGAA AATCTAATAC TTCTAAAGGT TCGATCATCT TGATACGTTT ACAGCCACTT	6600
AGTTCTTCCT CAGCAATTTG GCGAACACGA GGATTCATAT GGATAGGATA AATAGCCTTG	6660
ACATCTGAAT ATCTTCAAT AATCCTTCTA ATTGCTCTAA ACATATGTCT CATCGGTTCA	6720
CCAAGATTTT CACGACGATG AGCTGTAATT AGAATAAACC TGCTTTCTCC TATCCATTCT	6780
AACTCAGGAT GCGTATAGTC CTCTTGAATT GTAGTTTGTA AAGCATCAAT CGCCGTATTA	6840
CCTGTCACAA ATATGCTCTC TGGAGTTTTT CCTTCTCTTA AAAGATTATC TTTTGAAAGT	6900
TGTGTTGGTG TAAAAATGATA CTGAGCCAAA ACCCCAACCTG CTTGACGATT AACTCTTCA	6960
GGATATGGTG AATAGATATC GTAAGTGCGC AAACCAGCTT CAACATGACC AATTGGAATC	7020
TGTAAATAAA AGGCCGCCAG TGAAGTAGCG AAGGTCGTAC TTGTATCCCC ATGAACTAAC	7080
ACCAAATCAG GTTTTCTGA CTCTAAAATA GCCTTCATTC CTTCCTAAAAT GCCAATGGTC	7140
ACATCAAATA AAGTTTGTTC ATCTTTCATA ATAGACAAAT CAAAATCGGG AATAATCCCA	7200
AATGTGTCCA AGACCTGATC CAACATTTGA CGGTGTTGGC CCGTAACGCA AACTAATGTT	7260
TCAATATTCT TACGTGTTCT TAACTCTTTG ACCAAAGGAC ACATCTTGAT GGCTTCTGGA	7320
CGAGTTCCAA ATACTACAAC TACTTTTTTC ATATATTTAC TTAATCTTAA CAAATAATGA	7380
ACGGTCTCTA AAATAAATTA GATAACGGCT AATCCATAAC ACCACCTCAG ACATACTTGA	7440

352

ACAAATAGCT AATGTACTA AACTAAAATT ATCAGACAAG ATAAATATTC CTAATCCCAA	7500
AGTTTGGACA ATCGAAGCTA ATATAGTTGT CATGTAGTTC TCTTTCACCT TATCAATAGC	7560
TCCTAAGACA GGCCATCCGT AAATCATAGA ATAAAACTA GCAACAAAAG CGGGTAATAA	7620
GTACTTAAGA AAATCTGCTG AAACGGTATA TTTTTCACCA CCAATTATAG AAAGAATTTG	7680
ATTTGAAAAG AATAAACTA TCAAACTCC AAAGATAATA GGAATAACA TAATCCGATT	7740
AATACTCTTA ACCGATTGTA TATCTTTAGT ACGTATCATA TGCGGATATA AACTATTCGC	7800
TATAGGATTA TACAATGATT TTGCTGCTGA AAGCAGTTGC ATTGCTATCC CCCAAAAGGC	7860
TATCTCTTGA CTTTGTAAAT AAAAACCCGA AATGACTGTC GTAAAGACGC CAAAAATAGT	7920
AGTTGCAAAA TTGGATAAAA AATAAATAGA GGATTCCTTT AAATCTTTAA CCCAAACAGA	7980
CAGATAAGAA AATGATAATT TAATCCATA ATAATGAAGG AATCTATAAG AACTACTGC	8040
AGCAACTAAA TTCCCAATTC CTTCCTAATAT AGGAATCCAT AAAATAGAAG AATCATCTTT	8100
TACTACAATA AATGTCAAAA TTGTAATGAT AGTTTGTAGAA ATAATATAAG GAATTGCAAC	8160
TGCATGCATC TTTTCAATTC CACGAAATAA AAAGTCAAAG ATAAAAATAT TGGTCACTGT	8220
AGCTAACAAA TAAAAAATC AAAAAAGAA ATCTCTCTCTC ATTATGGGA TTTGCCACAT	8280
CAATATGGTG TAAATTAGAA TCGAAATGAT AGATAAAAT ATTTTTCCTCA CTAGAGTATC	8340
TCCAACATAT CTTCCTAATCT TTGAGGGAGT AGTACAAGCA TTTACAATAT TTTTGTAGC	8400
TGATATCATG AAACCAAAAT CAATCACCAG TTGAACATAA GCTATTAACG CTTTAACATA	8460
AATAACCATT CCATACGCGT CTAGCGAAAG CACCCTTGTC AAATACGGGA GTGTTAATAA	8520
AGGAAATAGT AATTTAACA TATTCAGAA ATAGAGAGAA CTTGTATTTT TTATAAATGA	8580
AATTCTATCA ACTTTCACGA ACTAGTCCCT CCAAAAAAAG ATCTAAATAG TCCAACCTAC	8640
TTCTCGCTTT CAACACCAAT TCTGAAGGTA TTGTATTCGG TTTTAGATGA AAAGTTTCAA	8700
GTTTCTTTAC AATACTATTA AACTTGAAT CAAATAAAGA TTCACAACGT TGTAACCTC	8760
CAATTGCTCC ATAATAACGT GCTGTTTTTT CTGGATGGCA TGCAATGGCA ATCACAGAT	8820
TATTAACAAC TGTTGCCACT ACCCAACAT GTAATTTACA AGTTAAAACC ACATCTACCA	8880
TTTCAACAA TGATGTCATT TCTGCAGGAG AATGATACTT GAATTGAAA CAATCCTCAG	8940
TTCTAACTAA TTTTCTAAAT TCCTGATAAT AAGCATCTTC ATAAGGTAGA ATGGAATCCG	9000
AAGTTACTAC AACATAATAG TTAGGATTGT TTTCTAGAAA AAGACTAATT GATTCGCAA	9060
ATTTTCAAG AGCTTTTGTG GAATGATTAT AGTGAACAAG AATTATCTTC TTATCTTTAG	9120
CTTCTCTTTT CAATTGACAC AGCTGCTCTG TTTTCTCTTC TCTTAATTTA CTGAAATAA	9180
TTAAATCAAA GGTTTCATGC ACTGGAGCCG AAGGCGACAA ATGCTTCAAA GAATCAAATG	9240

353

ATTCTCGATC ACGAACTGTA ATAAATTGAG CATGATTAAT AATTCTCTTT ATACCATAAT	9300
TCATCAAAGA ATCGTTATTA GGCCCTGCAC CAATACCTAA TACTCCTATA GGCTTTTAA	9360
AATATGAAGC CCAAATCCC AAAGGTAAAA ATCGTTTAAA TTGGATTAAA TTATCACGAA	9420
AACGTGCATT ATGCCCTTCC CCAAAATATC CTCCCGGGAT ATACAAAATA GCATCTGCTT	9480
GTTTTTTAGT AAAACTTTGT TTTTGCGAT ATTCTTTCAA GTACATTTGA AAGAAATCTG	9540
ATGGATTATA AAAAGAACT TCATATCCTT TAGATTCTAA TAAATCATAG ACAATCTCAC	9600
CGTAAAGATA ATCACCATAA TTACTTGAAC CATAATCCGT TGCACCATGT AACATAATTT	9660
TTTTCACCAC TATTTTTCAC ACCTCCTAAA AATAAATATC ATAATCAAAC TATACATAAT	9720
AGGACGATAA ACATCTATTG AACTACTTCT CACTAAAAGC AATAGTTGAG AAATTACCGA	9780
AAAATAATA ACTTTTGAGA TTTTACTTGT TTGAAAAGCT CTGAAATTTA ATCGCCATCC	9840
ACTAAATATT CCAAAAACAA AACTCCAAAA AACACCACCA TAGTAACCA AGTTCCAAAA	9900
TAATTCTTCC ACAAAGAAG AGCCTACAGG TAACCCCAA AATTTATTAA TAACAACCGT	9960
CGCTGATGCT TTATCAAAAA AATCACCAAC TAACCATCCA ATAGGAAAAA TTGATAGGAT	10020
AGTGCGTAGA AATGTCATCC CATATTCATA TGGAAATGCTA CTAGGCACAA CAGTTACAGC	10080
AGAAGCTACT GTTAGGCTGG TCAGTCCCGA CTCTGAAAAT ACTTCCCCTA GTATATTCTT	10140
TACAAAATCT AATGAAGAAA AGGAATCAAA TAAGTATATA CCTATAGTAT TCAAGTCGAA	10200
ACGGTGCCCC CTAATAACAA CTAATACATT TAATAGAAAT ACAGTTACTA TTAATAATAC	10260
AAGTACTCTT TTCTTCGAAA AAGTAATCCC TAAAGATTGT GTGTATACTA AAACCAACGC	10320
CAAGATTGAA AACACCTGGA TTTTACGACT TCCTGTTAGG ATCATTATCA AAATTAGGTA	10380
AAACAACATT ACCCAAAAAA TAGTACGCTT TATAACTCGG GACAGCTTAT CTGAATAAAA	10440
CAAGGAGAAC ACACCAGGAA GCATAAGTAC TCCTAAATCA TCTATTATTC CTGAACTAGC	10500
TGCCTCTGAA TATGCTGAAT AGCTATTCGC CGCTCTAACT GCTAGTACTG TTTTAGAATC	10560
AGTTATTACC CTAGAAATAA AGCCCACTCC TGTAAAAATC CTACCCGCAT TGTACAAAAT	10620
TTTCTCTTCA TTTTCTGAT AATTTTGTAC TTCTGAATGA TAATGTACCT TTCCATCACT	10680
ATAAAAAAAT AAATAGCCTA CAGAATAACA AAACAAAATC CAAATTATAA AAATATATGA	10740
ATGAAATAAT TCTTCATTAT TATAGAAGTT ACTAGGGCTC CACAGCAGAG TTGTTTGAAA	10800
CCCCATATAC TCATTGAAAA TTAATCCAAA CATAAAAAAA TAAGATAAAA TCAGATACCA	10860
TACAGAAAA TCATATATAC TAACTTTTGT TAAAAAATAA CCAGTAATTT GAAAAATAAT	10920
TAGAAAGCAA ACCCATATAA ATATAGACCG AACATAATTA GATATAAGAA AACCATTATT	10980

354

CCAATTATCG AGAGTCCAGA ACAAGTAACA GAAAGCAAAT ATAAACTTFA ATGTCACCTAG	11040
TGTCACCTCTA CAAATATACT TTGTCTGCAT CTATATCTCC TTTATTACAC ACATTCTCTG	11100
ATAACGATTC AATAATTTAC TAGCTTGATA ACAAATATCA TAGAGTCCAT CTGTCATACT	11160
GTTATTTTATT TCAAAACGAT TGCATTCCCTC AGATGTTAAA GACAGTACTT TATCTTTCCA	11220
TAGCAACACA GACTCTTCCT TGATAGGTAA GTAACCTAATG TTTTGGTCA CATCTACTTC	11280
TTGCGTCACT GTATCTGACG ATAAATTTG TAATCCCGAT GCCTGAGCCT CTACTAGAGA	11340
AACAGGCAAC CCCTCATATT TAGACGGAAG CAAAAAACA TCCATCGCAG ATAATAAATC	11400
AGAAATATCA GTCCTTCTCC CTAAAAATAG CACATATGGG GTCAGATTTA GTTCTAAAGC	11460
TTTCTGTTTT AATTCTGCT CATCTCACC ATTACCAACT AGGAGTAAAA TAACATTTGG	11520
TTTGATTAAA ATGACTTCTT TTAAACGTT AAATAAATAA CTTTGGTTTT TTTGATCTGA	11580
TAGGCGAGCT ATATTTCTTA ATACGAACCT ATTTGACACA TCTAATTCTC TACGACATTT	11640
TTCTCTAACA TCTGACAAAA ATTGATACTT TTTCAAAATCA ATTGCATTAA AAATAATTTT	11700
AATTTTCCG TCTTTATACG CTTTCTCTCC ATATAACCAC TTAGCCGAAT CTTCCCCACA	11760
TGCAAAACCA TGAGTTGCTA AGATTTTTAC CAAATTTGTT ACTAATTTAC GCAATACTTT	11820
TTGAAAACG TTTTCTGTTA CATAAGCCAT ATGACTATGA ATAATTCTAA TTTTACAACC	11880
AATTATTTTA GATAAGATCA GACCAATTGC AGATTTATAG CCATGGCAAT GAACTATATC	11940
ATAATCTCCT TTCTTTATTA TTCTAGCAAG AGAGAGAAAC TGATCTAGAG GCTTTTTCTT	12000
TAATAGAGGC ACATGATAAA CCTTTCACCC CAATTCTTTC ATTTTATCCT CTAATAATCC	12060
TTGTTCTTTT CCAGGCACAA TAAATCAAA TTGAATTTTT TTCTATCAA TGTGAGAATA	12120
ATAGTTGAAT AGAAAACCTT CTACTCCACC ACTATCTAGT GTTGTAATA GATGTAATAC	12180
TTAATCATT CTTCTTCCTT AAGCTTAAGA TTCGCTTCTC TAATCTATTT TCTGTTTTTT	12240
GTTTTCTAA ACTAATCTG TCCATGAAGT TATCACAATT CTTAATTAGC TGTTCCTGT	12300
CAAGGTTTTG AATATACAAA GCCAAACAAT CTTTTCCGA TTCATCCTTC ATAGGTAAAA	12360
CGAAACCAAA ACCATTCTCT ATTGACACTT TTTCCATATA AGTATCTTCA CAAACTAAAA	12420
TAGGTTTATA CAACAATGCA GCAAAGTAGA GTTTATTAGA CAAAGCATAG TCTAGTAAGG	12480
GAGTGTGATT CCCGTATAAA TTCAAACAA CATCTGTATT CTTATAAAAA GACATGGTAT	12540
CTTTAGGCTG GAATGTGTCC ACCAAGTTAA CATTGCTGAT ATTTTTTCT TGACAAAATT	12600
CCCTTAATTC TCCTGCATTA GTACCTATAA AATTCAACTG AAATCGACTG TCATTTGCAA	12660
AAAAATCGAT TATTTTTTTA TTTTGTCTT GAAACGAAT TAAACCAATG TAGGAAACTT	12720
GAATTGAAA CGTACTATTA TTTTTTAACT GCTTTACCTC GTTTAATTCT ATCATATTGG	12780

355

GTAGGTTATG GGTAGTAAAA TACTCTCCCA TTGGTAAAAA AAATTTATAG CCGTCTGAAG	12840
AAACGATATT CATTAAAGAA TTTTTCACCA ATTGTTTC TG AACCAAACGA TAAACCAAAA	12900
ATTTTTCATA ACTGTAATCA CGAATATCAT AAATATATCT ATTTTAAAT GAAAAGAGAA	12960
GAAAATCTAC TAAAATGAAA GACACAATAC TATGTAACGG CAATATCATA TCATAATCAT	13020
TTTCTTTTAG CTTCTTTTAA ATTTCTTTTC TGAATTTTAC ATAACCTAAT ATCTTACTTA	13080
ATTTTCCTTT ACCAGAAAAA GAAATACGAT AGTAGTTT TG TTTTGTAATA ATCTCGTTAA	13140
TATCTTATC CCAATATATA ACATCGTAAC TAATAGACAG TTTCTTCAAT AATCTTTTAT	13200
AAAAATTGAA GTAAGGAGTT AGATATATAT TATCAGATAG TATAAACAGT ACTCTCATTA	13260
AATTATCTT TCTTACTTTC CCTCTCTAAA CATGCTCTCA GTTCGAGCAT AAACCTGCTCT	13320
TTTGAAAAGT GATTTTCATA GTAACAACGA GCTTTCTTTC CTAACCTCTCT TTGTCTCTTA	13380
ATAGATAACA TACTAAATTT ACAATATTT TTTGCCAAAT GTTTTACATC TCGTTCGGGA	13440
CTAACATATC CACAATTTGC TTCTTCTACA ATTATTTTAG CATCTCTGA AATTGCACCT	13500
ATAATTGGTT TGCCTGCCGC CATATAAGAG TGTACCTTCC CAGGTATAGT ACGAGAAACT	13560
ATCGAGTCTC CTATTAAAGA AACTAACATA GCATCTGATT TTTTATAGAA GGATGGCATT	13620
TCCTCCAAAG AACGTCTTCC ATAGAAGGAA ATATTCTTTA ACTCCAATTC ATGAGCTAAT	13680
GCTTTCATGC TTAACAATTC CGTACCATCT CCAACAAAAT GAAAATGAA TTTCTTGGGT	13740
AAATTGGTAT TCTTCTCTAT CAAACTGGCA GCTTTCAAAA TAGTTTCCAA ATTTTGTGCT	13800
TTGCCAATAT TACCAGCAAA AGTTAGGTCA ACACTTCTT TATTAACATAT AGATTTCATCA	13860
GGGATAAAAA GATCTTCTGC ATATTGTGGC AAATATGTAA TCTTTTCTTC GGATATGTCA	13920
AATTGCTTCA CAAAATAATT TTTAAATGAT GGAAGTAGTA CAAATATATA ATCACTAGCT	13980
CGGTAAACTT TTTTGAGAT AAATTTAAAC AGCTTGAAAA TCAAGCCATC TTGTTTCACT	14040
CCACCTACGG TTAAACTATC TGGCCAAACA TCCATACAAT ATAGAAACAT CGGTTTCTTA	14100
TATTTTTTTT TATAAGCCAT ACCAGCCCAT GCCATCATA CTGGAGACAA TTGGTTAACG	14160
AATACACAGT CAAAATTCGA TCCATCTTTC GTTTTATACC TCCCCAATAA AACTCCTAAA	14220
GTAGAACTAA TTGCAAAGCT AAAATAATTC AACATCGAA ATACAACACT TTTTTTCTA	14280
GGGATTGTAT AAGAACGATA TATCGTAACA CCTTCTATA TCTCACGCT TTTTTTATTA	14340
TGACGATAAT CTGCATATAT CTTCCCTTCA GGGTAATTAG GAATCCCAGC CAAAACAGAG	14400
ACTTCATGCC CTTTTCGAAC TAAATCTTCA CAAATATCTG ACAACCTGAA TGGTTCGGC	14460
TTATAATGTT GGCAACAAA TAGTATTTTC ATTGTCCAAT TTAACCTTCT TTCTTACCAC	14520

356

TACCTCTAC AATACCTTTT CGTTTCAGTA CGTAAGGTAT TGTCTTAACT ATACATCTAA	14580
TATCCATTAT CAAAGACAGA TGTTTAACAT AGTAGCCATC TAACTCCGTC TTCATCTCAA	14640
CAGACAAAGT ATCACGCCCG TTAATTTGTG CCCATCCAGT TAACCCTGGC AAGATATCAT	14700
TTGCTCCATA CTTATCTCTC TCTGCAATCA AATCTAGTTC ATTTATACCC GCTGGTCTAG	14760
GACCTACAAT ACTCATATTA CCAACAAGAA TATTAAACAA TTGTGGTAGT TCATCCAAAG	14820
ATGTTTTTCG CAAGAAAGCC CCTACTTTTG TAATCyATTG CTCTGGATTA TATAAGTTTC	14880
GAGGCGCCAC ATTTTGTAGT GCATCTATTT TCATAGACCT AAATTTCAAA ATATAGAAGT	14940
ATTCTTTATG AATACCAAAG CGTTTTTGCT TAAATATAAC CGGACCTTCT GAATCAAGTT	15000
TAATCGCAAT TGCAATTATC ATAAAAACCG GACACAATAT TATTATCCCT ATTAAAGATA	15060
ATAATATATC ACCTAATCGT TTTATTATAC CGTACATAAA CAACCTCCAA CTATAAATTC	15120
TATTTCCATT TTTTATCTA TTTCCATTG ACAAATTAAT TCAGGCAGTA CATGCAACTA	15180
CAGAAACTCA ATATATATTT GGTCACTCAA TGATTTTCAG AAATATAATT CTTTATCCCT	15240
CTACGTCAGA TAAAACTTTT CTCCATCTAA ACAAATTTA TTTGTTTCAG TAATATATGA	15300
GTTCTCAATA ATGAATTAGA AGGTCCAGTT CAATTATCTT TCCAAATAGA CCGAATATTA	15360
TTTGAAGACA TATCGGTTTC TGAAATTGCA ATCAGTACAT AAGCTAATAA ACTGATAAGT	15420
ATGCTCTGTA AGAATGCCAG AGTTATATTG TAGTCCCCTT CCATACTATA TTCATTTTAT	15480
TTTTTACCAT AATTTCCATA GGAACCGTAA ACTCCATACT TATTAACCGA GATATCCAAT	15540
TTATTTAAAA CAACTCCTAG GAACAGTTTC CCTGTTTGTT TTAATGTGTG TTTTCGCTTTT	15600
TGGATATCAC GTTTATTCGC CTCACCTGTT GCTGTTACCA AGATGGACGC ATCACACTTT	15660
TGAGTGATAA TTGCCGCATC AATAACAATT CCAATAGGCG GTGTATCAAT AATGATATAA	15720
TCAAAATATT TACGCAATGT TTCAATCATA TCATTAAAAAT TTTTACTTTG TAACAAGGCT	15780
GTAGGGTTTG GTGATACAGA TCCCGATTGA ACTACAAATA AATTTTCAAT ATTGTATCA	15840
CATAAACCGT GAGATAAATC AGCTGTCCCA GATAAAAATT CTGTTAGCCC TGTAATTIT	15900
TCACGAGATT TAAAACTCC TAACATAACT GAATTTGAG TATCGCCATC GATCAAAAGA	15960
GTTTATATAG CTGCACGCGC AAACGACCAT GCTATATTTA TGGAAGTAGT TGTTTTCCCT	16020
TCCCCAGGGT TAACAGAAGT AACGGAAATT ACTTTTAGTT TATCTCCGCT CAACTGTATA	16080
TTTGTACACA AGGCATTGTA ATATTCTTCT GCCTTCTTAA TGAACCTCAG TTTTTTTTGT	16140
GCTATTTCTA ATGTCGGCAT CCTTCTCTCC TATTTCAACT TACCCAAGTT TGGCACAAC	16200
CCCCAAAGTG TCATCTGCAA TGTATTTTCG ATATCTCCG GACGTTTCAC ACGAGTATCC	16260
AAAAGTTCAA GATGAAGAAC TATAACACTA GTTCCAATCA CCCCTGCCAA AAAACCAATT	16320

AGTGTATTGC GTTTAATATT TGGCGAAGAC GGGGATATCG CCGGCCTTGC CTCCTCCAGT	16380
GTTGTACAGT CAGAAACACG AGTAATACTG ATAATTTTTT GAGCAGCTAC TTCTCTCAAA	16440
GAGTTAGCGA TACGGCTTGC CTCTTCAGGA ACTCGATCAT TAACTGAAAT AGAGACAATA	16500
CGGGTATCAA CTGGTACTGT CACTTTAATT TTATTAGCCA AACCTTTTGG CGTCAAATCT	16560
ACTTTCAAAT CAGAAACAAC TTCCTCCAAA ACATCCTGCG AAAGGATAAT CTCACGGTAG	16620
TCTTTTACCA GATAAGTTCC TGCCTGCAAA TCCTGATTTC TCAACCCCGG CTTGTCTCCT	16680
TGATTGCGAT TCACTACGTA AATTCGCGTG GTACTCGTAT ATTCTGGCTT AACAAATAAA	16740
GTGCTATATG CAAAAGCCCC CGCACCTGTC ACAAGTGCCA CTATTAAAAA CATTAGCTTG	16800
CGTTTCCACA AGCTTTTAAC TAATTGAAAT ACATCGATTT CTATCGTATT TTGTTCTTTC	16860
ATCATTTCTC CTAAATTAGT TGATCCATTA CAATTTTTCG AGGATTGTCT ATAAAAAGTT	16920
CCTGAGCCTT CGCTTCTCCG TATTTTGGG TAACAAGGTC ATATGCTTCT GCCATATGAG	16980
GAGGTCTACC GTCTAGATTG TGCATATCAC TTGCAATGAC ATGAACCAA TCCTGCTCTA	17040
AAAAATACTG AGCTCTTTT TTCATGAATT TATAACGTTT GCCAAAAAGT TTGGGTTTGA	17100
GGACATGTGA ACTATTTACT TGGGTGTAAC AGCCCATATC GATCAGTTCT CGAACGCGTT	17160
TTTCATTATT TTCAAGAGCA TCATAGCGCT CAATGTGGG AATGACTGGA GTAATCCCA	17220
ACATCAAGAT CTGCTCAAG GCGCTATGAA TATCGCGATA AGGAGTGTTT ATACTAACT	17280
CTATCAAGGC ATAACGACTA TCATTGAGGG TCGGAATCCG CTTTTTTTCC AGCTTATCCA	17340
GAACATCTGG TGTGTAATAA ATTCAGCCC CGTAAGCAAT GACCAAGTCA CTCGCCACTT	17400
CCTTAGCTAT TTCCGAACC TGAAGAAAGT TTTCTGCTAT CTTCTCTTCC GGAGTTTCAA	17460
ACATGCCCTT GCGACGGTGA GAGGTAGAAA CAATGGTTCG CACCCCTGT CTGTAGGATT	17520
CTGCCAAGAG AGCCTTGCTT TCCTCTCTTG ACTTGGGACC GTCATCTACA TCAAAAACGA	17580
TATGCCAATG GATGTCTATC ATTTTCATCTA CCCTCCATCA CATCCTGTAT AGCTGCTTTA	17640
ACTACAGCTA AACTACTATC ATCTATTTC ATCACATAGA GGTACTGTC TGGCATTGCA	17700
TAAGAAGGAA GATCCATCCG ACCTGTCCCT TTTAAATCTT GAGAATTTAC TTTATAATTC	17760
CCTCCACTTT CTAAGTGAAG ATTGACCAAA TTTATCATGG TCTCAAGTGG CATATTGTT	17820
TGGATAGAAT CTGCAAGCT ATTAATGATC GTACTATAAT TTTTCAGCAC TTCGGTTGAC	17880
GTTAATTTTT GAAGGATAGC CACAATCACC TTTTGTGAT GGC GCCGCG GTACACGATCG	17940
CCATCTGCTA GGGAGTAGCG CTCACGAACA AAACCGAGAG CCTGTCTGA ATCAAGATGA	18000
ACATGCGCTG CAGGGTAATA CTTTCCATTC GTATGGGCAG TAAATTCCTG ATCATTATAA	18060

358

ACATCAATTC CACCCAACAA ATCAATCAAT TTCAAAAACG AAGTGAAGTT CAATCGCACA	18120
TAGTAATTGA TATCCACTCC ATAGAGATTT TCTAAGGTGT GAATGGACGA ATCAACTCCA	18180
TAAATGCCCG CATGAGTCAA TTTATCTTTT TGATTATTTC CACCATCTGC GATTGGTACA	18240
TAGGCATCAC GTGGCGTTGT GGTCAAGAGG ATTTTCTTGG TATCTCGATT GACAGTCATC	18300
AGGATGTTGA CATCTGATCG CGACACCGAA CTAATAGGAC CATAGGTGTC AATTCCACTA	18360
ACATAGATAT TGAAAGACTG ACTCTTAGAC GTCTTAGGAG CTTCTACTTT TTTAGTGAAT	18420
CCCTTAGTAT AAATCTTTT TATCTTCGAT GCGTAGTCTG GATACTCTGA CTCGATGATG	18480
TTTTCAAAGA CACTATTTAG GACAATGGCC TTAGTCTCCC CTGCAATCAA ACTCTTGTA	18540
GCTGCCAAGT AAGACGAAC CTGGTTGACC GTCAAATCGG TATTCTGACT TGACTTGATA	18600
TCAGCTAGTA ATTTCTGAAT ATTTTCATTA TTAGTCCCAG TCGGTGCTGT CACACTCGTC	18660
AGTTGCGTAA CATTTTCGAT CTCACTATCT GCTAAAACAG CGACACTGAT TGAATATCT	18720
GAGTAATTAG AACTCGCATT TAAACGATTG GTCAGTCCAA CAAACTGCTG TACTGCAAAG	18780
AGCGACACAG AGCTGACAAG GATAGAGAAC ACCAACAGAA AAATAGTAAA CTTTTCAGCT	18840
TTTTTATAGA TAATCAAGAG TAGCCCTACC AAGGCAACTA GTAGGACTAA CGCAGTTACC	18900
ACTAGATTAA GATATCTAAA AGCAAGGATA TTGTACTTAA AGATTAAGAA CAATAAAAAA	18960
CAAATAACA ATAAATAAAT AGTCAGCAAA ACTATATTAA CACTTCGCTT CACTTTCGT	19020
GAACGTGATT TTTTAAAACG TCTACTCATG ATTAATACCT ATACATTGAA CATTATACGA	19080
TTATATCACT TTTTACGGT AATGTCTACA CCTTTATTTT TACTATCTGC ATCTTTAAGT	19140
ATCTTAGTAG ACTTCCCGCG AAACAAAAT ATAGTAAAAT GAAATAAGAA CAGAACAAAT	19200
CGTTCAGGAC AGTCAAATCG ATTTCTAACA ATGTTT TAGA AGCAGAGGTG	19250

(2) INFORMATION FOR SEQ ID NO: 36:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 21706 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: double
 - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 36:

AAAGTTGAAA GACTGCTAGC TGTTTTTGAT ACCAATCGTT TCCAAC TACA GAGCAAACAG	60
TATACAAAGT TTGTTTTTGG ATGTAAGCTT CTTGATGGAC AATTCCAAGA AAATCAAGAA	120
ATTGCTGACC TTCAATTTT TGCCATTGAC CAACTGCCGA ACTTATCTGA AAAACGCATT	180
ACCAAGGAGC AAATAGAGCT TCTTTGGCAG GTTTATCAAG GTCATAGGGG GCAATATCTT	240

GACTAAGAAG ATGATTATCG TATTTCTAAA TCCATTTTTA ACAACTAGCA TGGTATAATA	300
ATATGCAGGA AAATTTTGAA TTATGAGGAA GACTAGATGA ATTTATGGGA TATTTTCTTT	360
ACGACTCAGG CAACCGAGCC GCCCAAATTT GACCTTTTTT GGTATGTTAG CCTATTTACG	420
CTCTTAGCCT TAACCTTTTA TACAGCCCAT CGCTATCGTG AAAAGAAGGT TTACCAACGA	480
TTTTTCCAAA TCTTGCAGAC TGTTCAGTTA ATCCTTCTTT ATGGTTGGTA CTGGGTCAAT	540
CATATGCCAC TGTCAGAAAG CCTACCCTTT TACCATTGCC GTATGGCTAT GTTTGTGGTA	600
CTCTTGCTTC CTGGTCAATC CAAATATAAA CAATACTTTG CATTATTGGG AACATTTGGG	660
ACATTAGCAG CCTTTGTTTA TCCAGTGCCA GATGCTTACC CTTTCCACA TATCACCATT	720
CTATCCTTTA TCTTTGGTCA TTTAGCACTC TTGGGGAACT CTCTAGTTTA TCTATTGAGA	780
CAGTATAATG CGGATTGCT GGATGTGAAG GGAATTTTTC TCATGACCTT TGCCCTAAAT	840
GCCTTGATTT TTGTGGTCAA TTTGGTGACA GGTGGCGATT ACGGATTTTT GACAAAACCG	900
CCATTGGTTG GGGATCACGG TCTAGTAGCT AATTATTTAC TTGTTTCAAT TGTGCTGGTA	960
GCTACTATCA GTTTGACTAA GAAAATCTTA GAATCTTTT TAGCTCAAGA AGCAGAAAAA	1020
ATGATTGCAA AGGAAGCTTA ACACAGAGCT TTCTTTTTTG CTCTTAGAGA GTTTTACAA	1080
GCAGCTTATA AAATAAGAAT TTCTGAATAG ACAAACCTCA AAAATGGCTG GGAAATTTAG	1140
GAAAAAGCA AGCAGGATTA AATTTTTTGT GTTATAATAT TTTGTGAATA GCTATGCCTA	1200
TGTTTAGCTA TGAATAATA CGAAGTCCGA AACTTGAAG ATAGAGAGGA AGCGATGTAA	1260
TGGCTAGAGA AGGCTTTTTT ACAGGTCTAG ATATTGGAAC AAGCTCTGTC AAGGTGCTTG	1320
TGGCCGAGCA GAGAAATGGT GAATTAAATG TAATTGGCGT GAGTAATGCC AAAAGTAAAG	1380
GTGTAAAGGA TGGAATTATT GTTGATATTG ATGCAGCAGC AACTGCTATC AAGTCAGCCA	1440
TTTCCCAAGC GGAAGAAAAG GCAGGCATTT CGATTAAATC AGTGAATGTC GGCTTGCTTG	1500
GTAATCTTTT GCAGGTAGAA CCAACTCAGG GGATGATTCC AGTAACATCT GATACTAAGG	1560
AAATTACGGA TCAAGATGTT GAAAATGTTG TCAAATCAGC TTTGACAAAG AGTATGACAC	1620
CTGACCGTGA AGTCATTACC TTTATTCCTG AAGAATTTAT TGTGGATGGT TTCCAAGGGA	1680
TTCTGTACCC ACGTGGCATG ATGGGGGTTT GCCTTGAAAT GCCTGCTTTG CTTTATACAG	1740
GACCTCGTAC TATCTTGCAC AATTTGCGTA AGACGGTTGA GCGTGCAGGT GTTCAGGTTG	1800
AAAATGTTAT CATTTACCA CTAGCAATGG TTCAGTCTGT TTTGAACGAA GGGGAACGTG	1860
AATTTGGTGC TACACTGATT GATATGGGGG CAGGTCAAAC GACTGTCGCT ACAATCCGTA	1920
ATCAAGAAGT CCAGTTCACA CATATTCTCC AAGAAGGTGG AGATTATGTA ACTAAAGATA	1980

360

TCTCCAAGGT TTTGAAAACC TCTCGCAAAT TAGCGGAAGG CTTGAACTG AATTACGGGG	2040
AAGCCTATCC GCCTCTTGCA AGCAAAGAAA CCTTCCAAGT AGAGGTTATT GGAGAAGTAG	2100
AAGCAGTCGA AGTGACGGAA GCCTACTTGT CAGAAATTAT TTCTGCACGA ATCAAGCACA	2160
TCCTTGAACA AATCAAGCAA GAATTAGATA GAAGGCGTCT ATTGGACCTC CCTGGTGGTA	2220
TTGTCTTAAT CGGTGGGAAT GCCATTTTAC CAGGTATGGT TGAGCTTGCT CAGGAAGTCT	2280
TTGGCGTCCG TGTCAGCTT TATGTTCCAA ATCAAGTTGG TATCCGTAAT CCAGCCTTTG	2340
CGCATGTGAT TAGTTTATCA GAATTTGCGG GTCAATTAAC AGAAGTTAAT CTTTGGCTC	2400
AGGGAGCGAT AAAAGGTGAG AATGACTTAA GTCATCAGCC AATTAGTTTT GGTGGGATGC	2460
TGCAAAAAAC AGCTCAGTTT GTACAATCAA CGCCTGTTCA ACCAGCTCCT GCTCCAGAAG	2520
TAGAGCCGGT GCGCCTACA GAACCAATGG CGGATTTCCA ACAAGCTTCA CAAAATAAAC	2580
CGAAATTAGC AGATCGTTTC CGTGGATTGA TCGGAAGCAT GTTTGACGAA TAAAGAGGAA	2640
AAATAAATTA TGACATTTTC ATTTGATACA GCTGCTGCTC AAGGGGCAGT GATTAAAGTA	2700
ATTGGTGTCTG GTGGAGGTGG TGGCAATGCC ATCAACCGTA TGGTCGACGA AGGTGTTACA	2760
GGCGTAGAAT TTATCGCAGC AAACACAGAT GTACAAGCAT TGAGTAGTAC AAAAGCTGAG	2820
ACTGTTATTC AGTTGGGACC TAAATTGACT CGTGGTTTGG GTGCAGGAGG TCAACCTGAG	2880
GTTGCTCGTA AAGCCGCTGA AGAAAGCGAA GAAACACTGA CGGAAGCTAT TAGTGGTGCC	2940
GATATGGTCT TCATCACTGC TGGTATGGGA GGAGGCTCTG GAACTGGAGC TGCTCCTGTT	3000
ATTGCTCGTA TCGCCAAAGA TTTAGGTGCG CTTACAGTTG GTGTTGTAAC ACGTCCCTTT	3060
GGTTTGAAG GAAGTAAGCG TGGACAATTT GCTGTAGAAG GAATCAATCA ACTTCGTGAG	3120
CATGTAGACA CTCTATTGAT TATCTCAAAC AACAATTTGC TTGAAATTGT TGATAAGAAA	3180
ACACCGCTTT TGGAGGCTCT TAGCGAAGCG GATAACGTTT TTCGTCAAGG TGTCAAGGG	3240
ATTACCGATT TGATTACCAA TCCAGGATTG ATTAACCTTG ACTTTGCCGA TGTGAAAACG	3300
GTAATGGCAA ACAAAGGGAA TGCTCTTATG GGTATTGGTA TCGGTACTGG AGAAGAACC	3360
GTGGTAGAAG CGGCACGTAA GGCAATCTAT TCACCACTTC TTGAAACAAC TATTGACGGT	3420
GCTGAGGATG TTATCGTCAA CGTTACTGGT GGTCTTGACT TAACCTTGAT TGAGGCAGAA	3480
GAGGCTTCAC AAATTGTGAA CCAGGCAGCA GGTCAAGGAG TGAACATCTG GCTCGGTACT	3540
TCAATTGATG AAAGTATGCG TGATGAAATT CGTGTAACAG TTGTTGCAAC GGGTGTTCGT	3600
CAAGACCGCG TAGAAAAGGT TGTGGCTCCA CAAGCTAGAT CTGCTACTAA CTACCGTGAG	3660
ACAGTGAAAC CAGCTCATTC ACATGGCTTT GATCGTCATT TTGATATGGC AGAAACAGTT	3720
GAATTGCCAA AACAAAATCC ACGTCGTTTG GAACCAACTC AGGCATCTGC TTTTGGTGAT	3780

361

TGGGATCTTC GCCGTGAATC GATTGTTTCGT ACAACAGATT CAGTCGTTTC TCCAGTCCAG	3840
CGCTTTGAAG CCCCAATTTT ACAAGATGAA GATGAATTGG ATACACCTCC ATTTTTCAAA	3900
AATCGTTAAG TAAATGAATG TAAAAGAAAA TACAGAACTT GTTTTTTCGAG AAGTTGCAGA	3960
GGCTAGTCTG AGTGCTCATC GAGAGAGTGG TTCGGTCTCT GTCATTGCAG TTACCAAGTA	4020
TGTAGATGTA CCGACAGCGG AAGCCTTGCT TCCGCTAGGT GTCCATCATA TCGGTGAAAA	4080
TCGTGTAGAT AAGTTTCTGG AAAAATATGA AGCTTTAAAA GATCGAGATG TGACTTGGCA	4140
TTTGATTGGT ACCTTGCAAA GACGTAAGGT GAAAGATGTC ATTCAATACG TTGATTATTT	4200
CCATGCATTG GACTCAGTAA AGCTAGCAGG GGAAATTCAA AAAAGAAGTG ACCGAGTCAT	4260
CAAGTGTTTC CTTCAAGTAA ATATTTCTAA AGAAGAAAGC AAACACGGTT TTTCGAGAGA	4320
GGAAGTCTG GAAATCTTGC CAGAGTTAGC CAGACTAGAT AAGATTGAAT ATGTTGGTTT	4380
AATGACGATG GCACCTTTTG AGGCTAGCAG TGAGCAGTTG AAAGAGATTT TCAAGGCGGC	4440
CCAAGATTTA CAAAGAGAAA TTCAAGAGAA ACAAAATCCA AATATGCCTA TGACCGAGTT	4500
AAGTATGGGA ATGAGTCGTG ATTATAAAGA AGCGATTCAA TCCGGTTCCA CTTTTGTTCG	4560
TATAGGTACA TCATTTTTTA AGTAGGAGAG AACCATGTCT TTAAGAGATA GATTCGATAG	4620
ATTTATAGAT TATTTTACGG AGGATGAGGA TTCAAGTCTC CCTTATGAAA AAAGAGATGA	4680
GCCTGTGTTT ACTTCAGTAA ATTCTTCACA GGAACCGGCT CTCCCAATGA ATCAACCTTC	4740
ACAGTCGGCT GGCACAAAAG AGAACAATAT CACCAGACTT CATGCAAGAC AACAGGAATT	4800
GGCAAATCAG AGTCAGCGTG CAACGGATAA GGTCAATATA GATGTTTCGT ATCCTAGAAA	4860
ATATGAGGAT GCAACAGAAA TTGTTGATTT ATTGGCAGGA AACGAAAGTA TCTTGATTGA	4920
TTTTCAGTAT ATGACAGAGG TGCAGGCTCG TCGTTGTTTG GACTATTTGG ATGGAGCTTG	4980
TCATGTTTTA GCTGGAAATT TGAAAAAGGT AGCTTCTACC ATGTATTTGT TGACACCACT	5040
GAACGTTATT GTAAATGTTG AAGATATCCG TTTACCAGAT GAAGATCAAC AGGGTGAGTT	5100
CGGTTTTGAT ATGAAGCGAA ATAGAGTACG ATAATGATTT TTTTAATTCC TATGATTTAT	5160
AATGCAGTGG ATATTTACTC CCTGATTTTG GTAGCCTTCG CTGTCAATGTC TTGGTTTCCA	5220
GGTGCCTACG AATCCAGTTT AGGTCGTTGG ATTGTAGCGT TGGTGAAACC AGTGCTTGCT	5280
CCCTTGCAAC GCCTGCCTTT ACAGATAGCG GGTCTTGATT TATCTGTTTG GGTGCGATT	5340
GTTTGGTTC GATTTTACG AGAAAACCTA GTGCGTTTTC TGGCGATGAT AGGATGAATA	5400
AAGGATTTA TCAGCATTTT TCCATAGAAG ATCGTCCATT TCTTGACAAG GGAATGGAA	5460
GGATAAAGAA GGTAGAAGAT AGCTATGCTC CTTTTTAAAC TCCTTTTATC AATCCTCATC	5520

362

AGGAGAAGCT ATTAAAGATT TTGGCCAAAA CCTATGCTCT TGCTTGTAGC AGTAGTGGGG	5580
AATTCGTCTC GAGTGAGTAT GTTCGAGTTT TATTATACCC AGATTATTTC CAACCAGAGT	5640
TTTCAGATTT TGAAATATCT CTCCAGGAAA TTGTGTATTC CAATAAATTT GAACATTTAA	5700
CGCATGCTAA GATTTTAGGG ACAGTCATCA ATCAATTAGG GATTGAACGG AAACTTTTTG	5760
GAGATATCCT AGTAGATGAA GAACGGGCGC AGATTATGAT TAATCAGCAG TTTCTTCTTC	5820
TCTTTCAAGA TGGACTAAAG AAAATTGGTC GTATACCTGT TTCGCTGGAG GAACGTCCTT	5880
TCACCGAGAA AATAGATAAG CTAGAACAGT ATCGAGAACT GGATTTATCT GTGTCTAGTT	5940
TTCGATTAGA TGTTCCTTTA TCAAATGTTT TGAAACTATC TAGGAATCAA GCAAACCAGT	6000
TGATTGAAAA GAAACTTGTC CAAGTAAATT ATCATGTGGT AGACAAATCA GATTACACTC	6060
TTCAAGTTGG AGACTTGATT AGTGTGAGAA AATTTGGTCG CTTGAGATTA CTTCAAGATA	6120
AGGGACAAAC GAAAAAGAG AAGAAAAAA TAACCGTCCA GTTATTATTA AGTAAGTGAG	6180
GAATAGAATG CCAATTACAT CATTAGAAAT AAAGGACAAG ACTTTTGGA CTCGATTGAG	6240
AGGTTTGGAT CCAGAAGAAG TCGATGAATT TTAGATATT GTGGTTCGTG ATTACGAAGA	6300
TCTTGTGCGT GCGAATCATG ATAAAAATTT GCGTATTAG AGTTTAGAAG AGCGTTTGTG	6360
TTACTTTGAT GAAATAAAG ATTCAATTGAG CCAGTCTGTA TTGATTGCTC AGGATACAGC	6420
TGAGAGAGTG AACAGGCGG CGCATGAACG TTCAAACAAT ATCATTTCATC AAGCAGAGCA	6480
AGATGCGCAA CGCTTGTGG AAGAAGCTAA ATATAAGGCA AACGAGATTC TTCGTCAAGC	6540
AACTGATAAT GCTAAGAAAG TCGCTGTGA AACAGAAGAA TTGAAGAACA AGAGCCGTGT	6600
CTTCCACCAA CGTCTCAAAT CTACAATTGA GAGTCAGTTG GCTATTGTTG AATCTTCAGA	6660
TTGGGAAGAT ATTCTCCGTC CAACAGCTAC TTATCTTCAA ACCAGTGATG AAGCCTTTAA	6720
AGAAGTGGTT AGCGAAGTAC TTGGAGAACC GATTCCAGCT CCAATTGAAG AAGAACCAAT	6780
TGATATGACA CGTCAGTTCT CTCAAGCAGA AATGGCAGAA TTACAAGCTC GTATTGAGGT	6840
AGCCGATAAA GAATTGTCTG AATTGGAAGC TCAGATTAAA CAGGAAGTGG AAGCTCCAAC	6900
TCCTGTAGTG AGTCCCTAAG TTGAAGAAGA GCCTCTGCTC ATCCAGTTGG CCCAATGTAT	6960
GAAGAACCAG AAGTAGCTCC AATGCATCCG ATAGGTCCAA CACCAGCTAC AGAAACTGTT	7020
GATTCAATAC CGGGATTGA AGCACCAGCA GAATCTGTTA CAATTTTATA AGAAATATTC	7080
TGAGAACAAAT ATCTTATCCT TATATTTCCA GCGAGCAGGA GATGGTGTGA GTCCTGTAAT	7140
CCCTATTGAT AAGATTATCC TCTCAAAAAC TCAAGTCTGA AGCTAGTAAG ATTGACGTT	7200
TCCCACGTTA CGGGATAAGA GGGAGAAAGA CTAAATCTTT TTCCGAATAA AGGTGGTACC	7260
ACGATTTTCG TCCTTTTGG AAGTCGTGGT TTTTAATTG TTATTATTTA TAAAGGAGAT	7320

ACCATGAAAC TCAAAGACAC CCTTAATCTT GGGAAACTG AATTCCCAAT GCGTGCAGGC	7380
CTTCCTACCA AAGAGCCAGT TTGGCAAAAG GAATGGGAAG ATGCAAAACT TTATCAACGT	7440
CGTCAAGAAT TGAACCAAGG AAAACCTCAT TTCACCTTGC ATGATGGCCC TCCATACGCT	7500
AACGGAAATA TCCACGTTGG ACATGCTATG AACAAAGATT CAAAAGATAT CATGTGTCGT	7560
TCTAAGTCTA TGTGAGGATT TTACGCACCA TTTATTCCTG GTTGGGATAC TCATGGTCTG	7620
CCAATCGAGC AAGTCTTGTC AAAACAAGGT GTCAAACGTA AAGAAATGGA CTTGGTTGAG	7680
TACTTGAAAC TTTGCCGTGA GTACGCTCTT TCTCAAGTAG ATAAACAACG TGAAGATTTT	7740
AAACGTTTGG GTGTTTCTGG TGAAGGAA AATCCATATG TGACCTTGAC TCCTGACTAT	7800
GAAGCAGCTC AAATTCGTGT ATTTGGTGAG ATGGCTAATA AGCGTTATAT CTACCGTGGT	7860
GCTAAGCCAG TTTACTGGTC ATGGTCATCT GAGTCAGCAC TTGCTGAAGC AGAGATTGAA	7920
TACCATGACT TGGTTTCAAC TTCCCTTTAC TATGCCAACA AGGTAAAAGA TGGCAAAGGA	7980
GTTCTAGATA CAGATACTTA TATCGTTGTC TGGACAACGA CTCCATTTAC CATCACAGCT	8040
TCTCGTGTT TGACGGTTGG TGCAGATATT GATTACGTTT TGGTTCAACC TGCTGGTGAA	8100
GCTCGTAAGT TTGTCGTTGC TGCTGAATTA TTGACTAGCT TGTCTGAGAA ATTTGGCTGG	8160
GCTGATGTTT AAGTTTGAAG AACTTACCGT GGCCAAGAAC TCAACCACAT CGTAACAGAA	8220
CACCCATGGG ATACAGCTGT AGAAGAGTTG GTAATTCTTG GTGACCACGT TACGACTGAC	8280
TCTGGTACAG GTATTGTCCA TACAGCCCTT GGTTTTGGTG AGGACGATTA CAATGTTGGT	8340
ATTGCTAATA ATCTTGAAGT CGCAGTGACT GTTGATGAAC GTGGTATCAT GATGAAGAAT	8400
GCTGGTCCTG AATTTGAAGG TCAATTCTAT GAAAAGGTAG TTCCAACGT TATTGAAAAA	8460
CTTGTTAACC TCCTTCTTGC CCAAGAAGAA ATCTCTCACT CATATCCATT TGACTGGCGT	8520
ACTAAGAAAC CAATCATCTG GCGTGCAGTT CCACAATGGT TTGCCTCAGT TTCTAAATTC	8580
CGTCAAGAAA TCTTGGACGA AATTGAAAAA GTGAAATTCC ACTCAGAATG GGGTAAAGTC	8640
CGTCTTTACA ATATGATCCG TGACCGTGGT GACTGGGTTA TCTCTCGTCA ACGTGCTTGG	8700
GGTGTTCCAC TTCCTATCTT CTACGCTGAA GATGGTACAG CTATCATGGT AGCTGAAACT	8760
ATTGAACACG TAGCTCAACT TTTTGAAGAA TATGGTTCAA GCATTGGTG GGAACGTGAT	8820
GCCAAAGACC TCTTGCCAGA AGGATTTACT CATCCAGGTT CACCAAACGG CGAGTTCAAA	8880
AAAGAACTG ATATCATGGA CGTTTGCTTT GACTCAGGTT CATCATGGAA TGGAGTGGTG	8940
GTAAACCGTC CTGAATTGAC TTACCCAGCC GACCTTTACC TAGAAGGTTG TGACCAATAC	9000
CGTGGTTGGT TTAACATCCT ACTTATCACA TCTGTTGCCA ACCATGGCGT AGCACCTTAC	9060

364

AAACAAATCT TGTACAAGG TTTTGGCCCTT GATGGTAAAG GTGAGAAGAT GTCTAAATCT	9120
CTTGGAATA CTATTGCTCC AAGCGATGTT GAAAAACAAT TCGGTGCTGA AATCTTGCGT	9180
CTCTGGGTAA CAAGTGTTGA CTCAAGCAAT GACGTGCGTA TCTCTATGGA TATCTTGAGC	9240
CAAGTTTCTG AAACCTACCG TAAGATTCGT AACACTCTTC GTTCTTGAT TGCCAATACA	9300
TCTGACTTTA ACCCAGCTCA AGATACAGTC GCTTACGATG AGCTTCGTTC AGTTGATAAG	9360
TACATGACGA TTCGCTTTAA CCAGCTTGTC AAGACCATTC GTGATGCCTA TGCAGACTTT	9420
GAATTCTTGA CGATCTACAA GGCCTTGGTG AACTTTATCA ACGTTGACTT GTCAGCCTTC	9480
TACCTTGAT TGGCCAAAGA TGTGTTTAC ATTGAAGGTG CCAAATCACT GGAACGCCGT	9540
CAAATGCAGA CTGTCTTCTA TGACATTCTT GTCAAAATCA CCAAATCTT GACACCAATC	9600
CTTCCTCACA CTGCGGAAGA AATCTGGTCA TATCTTGAGT TTGAAACAGA AGACTTCGTC	9660
CAATTGTCAG AATTACCAGA AGTTCAAAC TTTGCTAACC AAGAAGAAAT CTTGGATACA	9720
TGGGCGACCT TCATGGACTT TCGTGGACAA GCACAAAAAG CCTTGAAGA AGCTCGTAAT	9780
GCAAAAGTTA TCGGTAAATC ACTTGAAGCA CACTTGACAG TTTATCCAAA TGAAGTTGTG	9840
AAACTCTAC TCGAAGCAGT AAACAGCAAT GTAGCACAA TTTTGATCGT GTCTGAGTTG	9900
ACCATCGCAG AAGGACCAGC TCCGGAAGCT GCCCTTAGCT TCGAAGATGT AGCCTTCACA	9960
GTGAAACGTG CTACTGGTGA AGTATGTGAC CGTTGCCGTC GTATCGACCC AACAAACGCA	10020
GAACGCAGCT ACCAGGCAGT TATCTGTGAC CACTGTGCAA GCATCGTAGA AGAAAACTTT	10080
GCGGAAGCAG TCGCAGAAGG ATTTGAAGAG AAATAAGATT GAAAAGTCTA GGCAAAATTC	10140
AATTGAGAA GAAAAGACAA CTAATTTTAT AGTCTATTAA ACGCATTCGA TCACGTTTTT	10200
GAATACCTGA TATGATGCGT TTTTATTFTA TTTTAAAAAT TTGCGAGGTA TGACTTTTTA	10260
TACTCAACAA GAATCAAAGA GAACTTAGC AAGCTAACAG TAGTAAGATA AAATAGGAAT	10320
TTGATATTAG GGATAAGATT GGTAAATAGT GTAATATTTT TACAACAATA AATTTATATA	10380
GTTATTTCTG GTTCTGAAA AGTATTATAT TTTATTTTAT ATTATACAAA TTTTATTTTT	10440
ATAATATCAG AACATACTTT TTTTAAAAGC AAATATGATA CAATTTTATT TGAAAAAAT	10500
AAAAAGGAG ATTTTATTAT AAAATTAAAA AGACTTGCTT TAATTAGTGG TATCGTCGGT	10560
CTTGTGGGAG GAATTTTACT TCTTATTGGT CCTTTTGTCT TGTGGGAAT AGCGGTAAAC	10620
ACAGCTGCTA CAACTCTTAA TGGAGGAGCT ACTGCAGGGG CTTTTTCAGG TGTAGCCTTA	10680
CTCTGAATG CCTTGAAGAT TGCAAACTTT GTTCTTGGA TCATTGCTAT TGTTTACTAT	10740
AAAGGAGATA AGCGTGTAGG TGCAGCTCCG TCTGTACTAA TGATTGTTTC TGGTGGAGTT	10800
AGTCTCATTC TATCCGTTT TTAGGATGGG TTGGGGGGAT TTTTGCTATT ATCGGAGGAT	10860

365

CTCTATTCCT TTCAACATTG AAGAAATTC AATCAGAAGA ATAAAAGGTA TTTTAGCATG	10920
AAAAGAACAA AAAAGTTTAT CGGTATAGGA GTAGCTCTAT TATCTCTTTC TCTTCTAGTT	10980
GCATGTGGAA CATAAAGTTC AAAGAATACT TCAACAAGTA ATGATGAGAA GACAGTAGCA	11040
ACATCCAATA GTTCAAAAGA AACAATCACT TTCGATACAC CGGTTGTAAC AGACGATGCG	11100
ATTGAATCAA TACGCACTTA TGCAGATTAT ATAGATCTTT ATAAAAATAT TTTTGATGAT	11160
TATTTTACTA AAGCTGAGGA AGGTTTCAAA GGCATAGCTA TGGAAAATAA TGACTCGTTT	11220
ACTAAACTAA AAGAGTCAAC TCAAAAATTA TTCGATGCGC AGAAAAAAG GTTAAATAAT	11280
GAAGATAGAA TAGAAACAAC CAAAAACAAT GTGATTGCCA AACATTGTCA AACAGTCCTT	11340
TCCTTTTGG TTTTGACTAG CTTTTTGTG AAAAATTGTG TAAAAATAGAA TAGATAAACG	11400
AGGGGAAACC TCGGAAATTT TAAAGGAGAA TCCATCTAAT GGTAATAATG GTTTTGGCTC	11460
GCCACGGTGA GTCTGAATCG AACAAAGCTA ACCTTTTCAC TGGTTGGGCT GATGTTGATT	11520
TGCTGAAAA AGGTACACAA CAAGCGATTG ACGCTGGTAA ATTGATCAAA GAAGCTGGTA	11580
TCGAATTGTA CCAAGCTTAC ACTTCAGTAT TGAAACGTGC TATCAAAACA ACTAACTTGG	11640
CTCTTGAAAGC TTCTGACCAA TTGTGGGTTT CAGTTGAAAA ATCATGGGCGC TTGAACGAAC	11700
GTCCTACGG TGGTTTGACT GGTAAAAACA AAGCTGAAGC TGCTGAACAA TTTGGTGATG	11760
AGCAAGTTCA CATCTGGCGT CGTTCATACG ATGTATTGCC TCCAAACATG GACCGTGATG	11820
ATGAGCACTC AGCTCACACA GACCGTCGTT ACGCTTCACT TGACGACTCA GTTATCCAG	11880
ATGTGAAAA CTTGAAAGTG ACTTTGGAAC GTGCTCTTCC ATTCTGGGAA GATAAAATCG	11940
CTCCAGCTCT TAAAGATGGT AAAAACGTAT TCGTAGGAGC TCACGGTAAC TCAATCCGTG	12000
CCCTTGTAAG ACACATCAAA GGTTTGTCAG ATGACGAGAT CATGGACGTG GAAATCCCTA	12060
ACTTCCCACC ATTGGTATTC GAATTCGACG AAAAATTGAA CGTCGTTTCT GAATACTACC	12120
TTGGAAAATA AAAAATTGTA AGTCTAGAAT TGATTTCTAG GCTTTTATG TTAGTATGGA	12180
AGTATGATAA GGAATAAAAA ACAAGATTAT GTACTGGCCT ACAAGCAACC AGCTTCAACC	12240
ACTTACATGG GTTGGGAAGA AGAAGCTTTA CCGATAGGCA ATGGTTCTTT AGGAGCAAAA	12300
GTATTTGGCC TTATAGGGGC TGAACGGATT CAATTTAATG AAAAAAGTCT CTGGTCTGGA	12360
GGTCCACTTC CTGATAGTTC AGATTATCAG GGTGGAAATC TTCAGGATCA GTATGTTTTT	12420
TTAGCTGAGA TTCGGCAGGC TTTGGAGAAG AGAGATTACA ATCTGGCTAA GGAAGTGGCT	12480
GAGCAGCACC TAATTGGGCC AAAAACGAGT CAATATGGGA CCTATCTGTC TTTTGGGGAT	12540
ATTCACATTG AGTTCAGCCA GCAAGGTACG ACTTTGTCCT AGGTGACGGA CTATCAGAGA	12600

366

CAGCTGAATA TTAGTAAGGC ACTTGCAGC ACTTCTTATG TCTATAAGGG AACGCGATTT	12660
GAACGTAAAG CTTTTCGAG TTTCCAGAT GATCTCTGG TTCAATGTTT TACTAAGGAA	12720
GGGTGGAAA CTCTAGATTT TACTATAGAA CTATCCTTGA CCTGTGATTT GGCTTCTGAT	12780
GGAAAGTATG AGCAGGAAAA ATCTGATTAC AAGGAGTGTA AGTTGGATAT TACTGATTCT	12840
CATATCTTGA TGAAGGGAAG AGTTAAGGAT AATGATCTGC GGTTTGCTAG TTATCTAGCT	12900
TGGGAAACGG ATGGAGATAT TAGAGTTTGG TCAGATAGGG TTCAGATATC AGGAGCCAGT	12960
TATGCCAATC TCTTCTTGGC CGCTAAGACG GATTTTGCCC AAAATCCTGC TAGCAATTAT	13020
CGCAAGAAAC TAGATTTAGA GCAACAGGTG ATAGACTTGG TGGACACAGC TAAAGAAAAG	13080
GGCTATACCC AATTGAAATC AAGGCATATC GAGGACTACC AAGCCTTATT CCAGCGTGT	13140
CAATTGGATT TGAAGCTGA TGTGACGCA TCCACTACAG ATGATTTGTT AAAAAATTAT	13200
AAGCCACAAG AAGGGCAGGC TTTGGAGGAG CTGTTCTTCC AGTATGGACG GTATTTATTG	13260
ATTAGTTCGT CCAGAGACTG CCCAGATGCT CTACCAGCTA ACCTACAGGG AGTCTGGAAT	13320
GCGGTCGACA ATCCTCCTTG GAATTCGGAC TATCACTTAA ATGTCAATCT GCAGCTGAAT	13380
TATTGGCCAG CCTATGTTAC CAATCTCCTA GAGACGGTCT TTCCAGTCAT CAACTATGTA	13440
GATGATTTGC GTCTCTATGG TCGTCTAGCG GCTGTAAAGT ATGCAGGAAT CGTCTCTCAG	13500
AAAGGTGAGG AGAATGGTTG GTTGGTTCAT ACTCAAGCGA CTCCTTTTGG TTGGACGGCA	13560
CCTGCTGGG ATTACTATTG GGTTGGTCA CCAGCTGCCA ATGCGTGGAT GATGCAAACC	13620
GTTTATGAAG CCTATTTATT TTATAGGGAC CAAGACTATC TCAGGGAGAA AATTTATCCC	13680
ATGTTGAGGG AAACGGTTCG TTTTGGAAAT GCCTTTTAC ATAAGGATCA GCAGGCGCAG	13740
CGTTGGGTGT CTTCTCCGTC TTATTCCCCA GAACATGGGC CGATTTTCGAT TGGCAATACC	13800
TATGACCAAT CTCTGATTG GCAGTTATTT CATGATTTTA TTCAGGCTGC TCAGGAATTG	13860
GGACTGGATG AGGACTTGTG GACTGAGGTT AAGGAGAAGT CTGATTTACT AAATCCTTTG	13920
CAAATCACTC AATCTGGTCG AATCAGGGAG TGGTATGAGG AGGAAGAGCA GTATTTTCAA	13980
AATGAGAAAAG TGGAGGCCCA GCATCGGCAC GCTTCCCATC TAGTGGGACT CTATCCTGGC	14040
AATCTCTTTA GCTACAAGGG ACAAGAGTAT ATTGAAGCGG CGCGTGCTAG CCTCAATGAT	14100
CGTGGAGATG GCGGCACAGG CTGGTCCAAG GCTAATAAGA TCAATCTCTG GCGCGTTTG	14160
GGAGATGGCA ATCGAGCCCA TAAATTATTG GCAGAGCAGT TAAAGACATC CACCTTGCAA	14220
AATCTTTGGT GTAGCCATCC TCCTTTTCAG ATAGATGGTA ATTTTGGTGC TACTAGTGGC	14280
ATGGCAGAAA TGTTACTCCA GTCTCATGCA GCTTATCTGG TACCTCTAGC TGCCCTACCT	14340
GATGCTTGGT CAACAGGTTT TGTTCAGGC TTAATGGCAC GTGGACATTT TGAAGTGAGC	14400

ATGAGCTGGG AAGATAAAAA ACTCTTACAG TTGACCATTT TATCAAGGAG TGGAGGAGAT	14460
TTGCGAGTTT CTTATCCAGA TATTGAGAAG AGTGTGATTA AAATGAATCA AGAAAAATA	14520
AAAGCGAAAT GCATGGGGAA AGATTGTATT TCGGTGGCAA CAGCAGAAGG TGATCTTGTT	14580
CAATTTTATT TTTAAGAAGA TGTATAAGG CAGTAATTTG AAAGTGCCTT TTAATAAGGA	14640
TTTAAGAATA TAAGCAGTTT TCAACTAGTT GAAAAACGT TATAATGATA ATAGGAAGTA	14700
ATACTCAATG AAAATCAAAG AGCACAACT AGGAAGCTAG CCGCAGGTG CTCAAAACAG	14760
TGTTTGTGAGG TTGCAGATGG AAGCTGACGT GCTTTGAAGA GAGATTTTCG AGGAGTATAA	14820
TTTGTTTGAT AGAGGGTGGG TCTGATGGCT TATATTGAGA TGAAACACTG TTACAAGCGT	14880
TATCAGGTG GGGACACGGA GATTGTGGCC AATTCTGATG TGAATTTTGA GATTGAAAAG	14940
GGGAGCTGG TTATTATCCT TGGTGTCTCA GGTGCAGGCA AGTCAACAGT TCTTAACCTT	15000
CTTGGGGGAA TGGATACCAA TGATGAAGGG GAAATCTGGA TTGATGGTGT TAATATTGCG	15060
GATTATAGTT CCCACCAGCG CACCAATTAC CGTAGAAATG ATGTGGGGTT TGTTTTTCAG	15120
TTTTATAATC TAGTTTCTAA TCTGACAGCT AAGGAAAATG TGGAACTGGC TTCTGAAATT	15180
GTGACAGATG CCTTGAATCC TGATCAGGCC TTGACAGATG TAGGTCTGGC TCATCGTCTC	15240
AATAACTTTC CAGCCCAGCT TTCTGGAGGG GAGCAACAGC GAGTCTCCAT TGCACGCGCG	15300
GTAGCCAAAA ATCCTAAAAT TCTCCTTTGT GATGAACCGA CTGGAGCCTT GGATTATCAG	15360
ACGGGCAAGC AGGTTTGTAA AATTCTCCAA GACATGTCTC GTCAAAGGG AGCGACGGTG	15420
ATCATCGTGA CTCATAATGG AGCTTTGGCG CCCATTGCTG ATCGCGTGAT TCAATGCAC	15480
GATGCCAGTG TCAAGGATGT GGTGCTCAAC CAGCATCCTC AGGATATTGA CAGTTTGGAG	15540
TACTAGCATG ATCAAGCGAA AAAGTTATTG GAAGGACTTA GTTCAGTCCT TCACAGGCTC	15600
CAAGGGGCGT TTTTATCCA TCTGATCCT GATGATGTTG GGATCTCTAG CCTTAGTAGG	15660
CCTCAAAGTA ACCAGTCCCA ACATGGAGGC GACAGCTAAT GCTTATTTAA CAACTGCTCA	15720
AACCTTGGAT TTGGCAGTCA TGTCTAACTA TGGCTTGGAT CAAGCAGACC AAGAAGAACT	15780
AAAACAGACG GAGGGCGCAG AGGTCGAGTT TGGCTATTG ACAGATGTGA CTATGGATAA	15840
TGGGCAGGAT GCCATTCGGC TGTACTCCAA ACCAGAGCGA ATTTCAACCT TTCAGCTAAG	15900
AAAGGGACGA CTTCTCAGT CAGACAAGGA AATCGCTTTG GCCACTCATT TGCAAGGCCA	15960
ATACAGCGTG GGACAGGAGA TTAGTTTAA AGAAAAAGAA GAGGGTCATT CCTCTTAAA	16020
AGACCATACT TATACCATTA CTGGTTTGT GGATTCGGCT GAAATCCTCT CCCAGCGAGA	16080
TATGGGCTAC GCAGGAAGTG GAAGTGGGAC TCTGACAGCC TATGGGGTGA TTTTACCTAG	16140

368

TCAATTTGAT CAGAAAGTCT ACAATATAGC TCGTTTGAAA TATCAAGATT TAGCGGGTTT	16200
AAATGCCTTT TCATCAGCTT ATGAAGAAAA ATCCAAGCAA CATCAAGAAG AGCTTGAACA	16260
AATTTTATCA GATAATGGCA AGGTACGTCT GCAACTTTTG AAAAAAGAAG GACAAGAGTC	16320
TCTAGACAAG GGGCAAGAGA CCCTTGACAA GGCTCAGACT AATTTCAGAG AAGGCAAGCG	16380
TCGTTTAGCA GCTGCTCAAG CTCGTATACA GGCTCAAGAA AGTCAACTAG CCTTGTTTCC	16440
TCAAGTTCAG AGAGAGCAGG CTAGTGCTCA ACTTACCCAA GCCAAGCAGG AATTGGGCAA	16500
GGAAGAGGAC AAAGTAAAGC AAGCTGAACA AAATCTAGCC CAAGAAAAGG AAAAATTAGA	16560
AAAACATCAG CAAGTCTTGG ATGATTTGGC GGAGCCAAGG TATCAGGTTT ATAATCGTCA	16620
GACCATGCCA GGTGGTCAGG GCTATCTTAT GTATAGCAAT GCTTCATCCA GTATTGAGC	16680
AGTGGGCAAT ATCTTTCCTG TGGTACTTTA TGCCGTAGCA GCCATGGTGA CCTTTACGAC	16740
CATGACTCGC TTTGTAGACG AAGAGCGAAC TCATGCAGGG ATTTTAAAGG CCTTGGGTTA	16800
TCGTAGPAAG GATATTATCG CCAAGTTTCT CCTTTATGGA CTAGTAGCTG GACTGTGCG	16860
AACGGCTCTA GGTAGTATAC TTGGTCATTA TTTGCTAGCC AGTGTAATTT CAAGTGTCAT	16920
TACAAAAGGC ATGGTGGTGG GAGAACTCA GATTCAGTTC TATTGGACCT ATAGCTTACT	16980
AGCTTTTGTC TTGAGCTTGT TGGCGAGTGT GTTACCAGCC TATCTGGTGG CTTGGAGGGA	17040
ACTTCATGAC GAAGCAGCCC AGCTTCTACT TCCTAAACCT CCTGTCAAAG GAGCTAAAAAT	17100
CTTATTGGAG CGTATCGGTT TTATCTGGCG TCGTCTCAGT TTTACTCATA AGGTAACAGC	17160
CCGCAACATC TTTCGTATA AGCAGAGAAT GTTGATGACA ATCTTTGGTG TGGCAGGTTT	17220
TGTAGCTCTG CTCTTTGCAG GTTTGGGAAT CCAATCTTCT GTAGCAGGAG TTCCGTCTAA	17280
ACAGTTTCAA CAAATCCAAC AGTATCAGAT GCTTGTCTCT GAAAACTCTA GTGCGACCAA	17340
TCAGGACAAG GTAGAGCTAG CAGAAGTGT GAAAGGGCAG GAGATACTAG CCTACCAGAA	17400
AATCTATTCT AAAGCGCTAT ACAAGGATTT CAAAGGCAAA GCTGGTCTTC AAAACATTAC	17460
TCTTATGATG ATAGAGAAGG AAGATTTGAC TCCCTTTATC CATCTTCAAC ATCATCAGCA	17520
GGAGCTGACA TTAAAAGATG GCATCGTTAT TACAGCTAAA CTCGCCCAGC TGGCAGGTGT	17580
CAAGGTTGGG CAGACTTTAG AAATTGAAGG TAAGGAACCT AAGGTCGTTG CTATTACTGA	17640
GAACACGTT GGTCACTTTA TTTATATGAG TCAGGCTAGC TATGAGCAAC TTTACGGACA	17700
GCTACCCCAA GCCAACACTT ATCTGGTCTC ATTAAGGGAT ACCAGTGCAA CTAGTATCGA	17760
AAGTCAGGCG GGCTTGCTTA TGAATCAATC TGCGGTGTCC AGCGTTGTCC AAAATGCTTC	17820
AGCCATTCTG CTCTTCGACT CTATCGCTAG CTCACTCAAT CAGACCATGA CCATCTTGGT	17880
CATCGTATCG GTTCTATTAG CTATTGTCAT CCTTTACAAT CTGACCAATA TCAACGTAGC	17940

TGAGAGAATC CGTGAAC TCT CCACTATCAA GGTTCCTGGT TTTCATAATA ATGAAGTCAC	18000
CCTCTACATT TACCGTGAGA CGATTGTGCT GTCCCTTGTG GGAATCGTAC TTGGTCTGAT	18060
AGCTGGTTTC TATTTACACC AATTTTGTAT TCAAATGATT TCGCCTGCCA CTATTCTCTT	18120
TTATCCGCAG GTAGGCTGGG AAGTCTATGT AATCCCAGTG GCAGCAGTAA GCATCATTTT	18180
GACCTTGCTT GGTTCCTTCG TCAATTATTA TCTGAGAAAG GTTGATATGT TAGAAGCCCT	18240
GAAATCTGTA GAGTAAGGTA GTTATTTTGA GCTGATTGAA CTTCTATTTA CTAATATTCA	18300
AAAATCCTCC GTTTCAAAGA GCAGGGAAC TTTGTGACA GAGGATTTT TCTATAGGGC	18360
TTTAGCAGCT GCAATTGCGG CTTGGAAGTT TGGCTCAGAA TTGATATTAT CCACGTATTC	18420
AACGTAGCGA ATCGTATTGT CAGTATCGAG GACAAAGACT GCGCGTGCTA ATAGGTGCCA	18480
TTCTGTTGATC AAGAGGGCAT AATCGCGCCC GAAAGAATGG TCAAAGTAGT CTGAAAGCAT	18540
AATGGCATTG TCAAGGCCTT CAGCACCGCA CCAACGTTT TGAGCAAAAG GTAGGTCCAT	18600
TGAAACAGTC AATACGACCG TGTGTGCCAG TCCAGCCAAT TCTTCATTAA AACGACGTGT	18660
TTGAGTTGAG CAGATGCCTG TATCGATAGA AGGAACGACA CTCAAGACTT TTTCTTGCC	18720
ATCAAAATCA GCCAGAGATT TTTTAGAAAG ATCTGTTGTA GTAAGAGAAA AATCAAGCGC	18780
CTTGTCGCCG ACTTGATGTT GTTTACCTGT AAAGCTCACA GGATTTCCGA GAAAAGTTAC	18840
CATAGGATAC TCCAATCTTT TTTCTTCCAT TTTAGCTGAA ACAGTCGGAA TTTCCAATG	18900
ATTGACCGG AAATATGGG ATAGAAAAA CGCCAGCTCA TGTGAGAATG ACGTTTTTCA	18960
TAGGTTTATT TTGCCAATCC TTCAGCAATC TTGTCAAGGT TGTATTTCAT CATGCTGTAG	19020
TAGCTGTCGC CTTCTTTACC TTGTTCTGCG ATAGAGTCAG TAAAGATTG AGCGTAGATT	19080
GGGATGTTTG TGTCTTGAGA AACAGTTTTC ATTGACGGT CATCCACACT TGATTCTACA	19140
AAGAGTGATG GAACTTTTGT TTGGCGAAGT TTTTCAACCA AGGTCTTGAT TTGTTCAAGG	19200
GTTCTTCTT CTTCAAGTAT GATTTCCTAG ATGTAAGCAC TTGGGACACC ATAGGCTTTA	19260
GAGAAGTATT TGAATGCTCC TTCGCTGGTT ACAATGAGTT TCTTTTCAGC AGGGATCTTA	19320
TTAAATTTAT CCTTACTTTC TTTATCAAGT TTGTCTAACT TATCAGTATA TTCTTTGAGA	19380
TTTTTTTCAT AGAATTCITT ATTGTIAGGG TCTTTGGCGC TCAATTGTTT GGCGATATTT	19440
TTAGCAAAAA TAATACCGTT TTCAAGGTTA AGCCAAGCGT GTGGGTCTTC TTTTCCTTTT	19500
TCATTTTGAC CTTCAAGGTA GATAACATCA ACGCCGTCGC TGACTGCGAA GTAGTCTTTG	19560
TTTTTCAGTT TCTTGGCATT TTCTACCAAT TTTGTAAACC AAGCATTGCC ACCTGTTTCA	19620
AGGTTGATAC CGTTATAGAA AATCAAATTA GCCTCAGAAG TTTTCTTAAC GTCTTCAGGA	19680

370

AGTGGTTTCGT ATTCGTGTGG GTCTTGCCCA ATCGGAACGA TACTATGAAG GTCAATTTTG	19740
TCACCAGCAA TATTTTGTAGT AATATCAGCG ATGATTGAGT TTGTAGCAAC AACTTTTAGT	19800
TTTTGACCAG AAGTTGTATC TTTTTCCTCG CTAGCACATG CTACAAGAAT GATTGCAGAA	19860
AGAAAGAGAA CGAGTAATGT ACCTAATTTT TTCATTAGAT CCTCCAATTT ATTAGGGCTT	19920
TGCCCCTTAT TTAAACAAAT GTTTATTTTT CAGTTTCAAA TATCGTTGTT TGGGAGCGAT	19980
AAAGAAGCTA ATGAGAAAGA AACTAGCAGC TGTAAGCACG ATACTAGAAC CTGCCGCAAC	20040
ATTAAACTA TAGCCAATAA AGAGTCCCAA AACTGAAGCA GTAGCTCCGA AGGTTGAGGA	20100
AAGGAAAATC ATACTTTTCA GACTATTAGC ATACAGATAA GCAGTTGCAG CTGGGGTAAT	20160
CAGCATGGCT ACAATCAGGA TAGTTCCGAC ACTTTCATG GCTGTCACAG ACACGAGAGT	20220
CAGGAGTACC ATGAGAAGGT AGTGATAGAA ATTGACAGGC ATTCCCATGG CTTTAGCCAA	20280
GAGTTCATCA AAGGAAGTTA TCAAGAGTTG CTTGAAGAAA ATCCAGATTA ACAAGAGGAT	20340
AGCTGCCCCC ACACCCATAG TAATAACAT ATCCGTATCT TGGACGGCCA GGATATTACC	20400
AAAAAGGATA TGGAAAAGGT CAGTTGAACT TTTAGCGACA CCAATCAAGA TGATACCGAG	20460
GGCTAAGAAA GAAGAAAAGG TAATGCCGAT GGCGGTATCG CTTTGTATAA TCGAGTTTCC	20520
TTTGATGTAG GTAATGATGA TGGCAGCTAG CAATCCAAAG ACAATGGCTC CGATAAGAA	20580
GTCAAGGCCC AAGATGAAGG ATAGGGCTAC ACCTGGTAAG ACAGCATGTG AAATGGCATC	20640
TCCCATGAGT GACATCCCGC GTAGAATAAT GAAACATCCC ACAGCTCCAG CTACAATCCC	20700
GACGACAATA GCTGTTATCA AGGCATTTTG TAGGAAATGG AATTTTGTCA ATCCATCGAT	20760
AAATCTGCA ATCATAGGTC ACCTCCATTG AAAAAGAGTT GATTACCGTA AGCTTCTTTT	20820
AGATTGGTTT CGGTAAAAGT TTCTTTTGTT GGACCAAGG CAATCACTTC TCGATTGACA	20880
AGTAAGACTT GATCGAAGTA GTGGGGAATC TTGCTGAGGT CGTGGTGAAC GATGAGAACC	20940
GTCTTCCCAG CTTTTTCAA ATCTCTCAGC GTATTCATGA TGATTTCCTC ACTGACAGAG	21000
TCAATCCCAG CAAAGGGTTC ATCCAAGAGG ATATAGTCGG CTTCTGTCAC CAAACATCTG	21060
GCAATCAAGA CCCGCTGGAA TTGACCTCCA GACAGTTGAC TAATTGACG TTCAGCGTAG	21120
TCAGCTAGGC CGACGATTTT AAGGGCCTCT TGCACCTTCT TCCAATGTTT AGCCTTTAAA	21180
CTTCGAAAAG GAGGAATAGA GGGAAATAGT CCTAACGAGA CGCATTCCTT GACCTTGATG	21240
GGAAAGTTGT AGTCGATATT GATTTTTTGT TCGACATAGG CAATTCGGTG TAAGGATTTT	21300
TTAACTTCCT TGTCATCGAG AAATGCCTGA CCTTGATGTG GGATAATTCC CAACATACCT	21360
TTTAATAGTG TTGATTTCCC AGCGCCGTTT GGACCAATGA TGCCGGTAAT TGTGGTCCA	21420
TGGAGCACTA GTGAAATATC CTTAAGTGCC AACGTTTCTT TGTAGGAGAC ACTGAGGTTT	21480

371

TCGATACGTA TCATAAACTT GTATTCCTCC TGTCTCTTAA TATACATTAA AAAAAAATT	21540
AAGTCAAGTT AATTTTGGAA AAAATTAAAA TAATAACTGA AAAATAGATT CTAAAGATAA	21600
CTTTCAGGAT AAATTTCTAA ATTATAAAC GCATAGTATC AAGTGTAATA AACTTGGAA	21660
TATGCGTTTT ATCATGGAAA GATTTTAT AATAGCTAAA AAATAA	21706

(2) INFORMATION FOR SEQ ID NO: 37:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 6171 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: double
 - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 37:

GATCCCCAGG AAAAACCAGG GTTTTCCCAA TCAATCGTTA CTGTCATATT CCACTCCTTA	60
TTCTAAAAAC CTATTTCTTA TATTCTACAC TATTTTCTTA AAATAGCAAG TATATTTTGT	120
AAATTTTCAGA AAATTTCTCC AATAAAAACC AACTCTTAGA ACTGATTCTT CATTTCACTT	180
ATTTATCTTC AGTAACTACT TCCTGAAGAT AAGCGTCAAA AACTTCTTCA TCTGAAATCG	240
TGTCAGAAAT GAAGCTTCCA TTGCTAGTGC GTTCTGACAA GTTCAAGTCT TGCAATCGGC	300
TTTCATAGAT TGTTCCCTTA TTGGATTGGA CAAGCAGAGT TTGGTCGTTC ACATCCACTT	360
CCGTACTGAA GAAATCGCCA ACAATCCTT GCTCTGCAAC TGCTCCTGCC AAGAAGACAC	420
GATGCGGTTT GTTTTCAAC TCACGCAAGA CTTGTAATCC TCGTTTGGCA CGGCTGGTTG	480
CTAGAATTC CTCAATGGAA ACACGTTTCA AGCTTCCACG CTGGGTCAAG AGGTAGAAGG	540
ACGAAGTATT ACAGATAAAG CCAGATTGGA GGACATCATC TTCTTTCAAA TTCATAGCCT	600
TGACACCTGC TGCCTTAGCA CCGACAACCG GAACCTCTTC GATATTGAAA CGCAGGGCAT	660
AACCATTTTG ACTAACCAAG ACAACATCAT CTAGTTTAAT CGGAGCCACT GCTACAATCT	720
GATCTGTATC GTCTTTGAGC TTAGCATACT TGACAGACTT AGATCTATAG GTCCGCCATG	780
GAGTGAATTC TTTTCGCTCT ACCCGTTTGA TTTGACCAAG GCGAGTCACT GCAAAGTAGG	840
TTGTGCGATC GTCAAACGA TCCAGTACTT CCACATAAAG GATTTCTTCA TTCGTTTCAA	900
AGTTTGTGAT GGTTTGGCTC AGATGCTCTC CGATGTCCTT CCAACGAATA TCTGCCAACT	960
CATGGATTGG TCTGTAGATG ACATTTCCAA GACTTCTGAA CATCAAGAGG TGCTGGGTTG	1020
TCTTGGCAGA TTGAACAAA ATCAAACGGT CATCATCACG CTTGCCAATT TCTTCCAAGG	1080
TGGAAGCCGC AAAGGAACGT GGACTGGTAC GCTTGATGTA ACCTGCCTTG GTCACGCTGA	1140

372

CGTAGGTATC TTCCTCAGCG ATAAGACTAG CTGTATCAAT CTCAATTGCT TTCGCAGTGT	1200
CTTCTAAAGA ACTCAAACGA GGAGTTGCAA ATTTCTTCTT GACCTCACGA AGTTCTTTCT	1260
TCATGAGATT GTACATAGTC CTTTCATCAC CGATAATAGC CGCCAGCATA GCAATCTTCT	1320
CACGAAGCTC TGCTTCTTCT TCCTGCAAGA CAACCACATC GGTATTGGTC AAACGGTACA	1380
GTTGCAAAGT TACGATAGCC TCAGCCTGTT CTTCCGTAAA ATCATAGCTA ACTTTGAGGT	1440
TTTCCTTGGC GTCGCGCTTA TTCTCAGAAG CACGGATAAG AGCAATGACT TCATCCAAAA	1500
TCGAAATCAC ACGAATCAAA CCTTCGACGA TATGGAGACG TTTCTCAGCC TTTCTTTGT	1560
CAAAGCGTGA ACGCGCCAAA ATCACTTCTC GACGGTGAGC GATATAGCTA GACAGGATTG	1620
GAACAATCCC AACCTGACGA GGTGTGAAAT TGTCAATCGC CACCATATTA AAGTTGTAGT	1680
TGATTTGTAG GTCGGGTGAC TTAAATAAGT AGTTGAGAAC AAGCTCAGTA TTAGCGTCTT	1740
TCTTAAGTTC GATAGCGATA CGAAGACCAT CACGGTCAGA CTCATCACGA ACCTCAGCAA	1800
TCCCAGCTAC CTTGTTATTA ACACGAACAT CATCGATTTT CTTGACTAGA TTGGCCTTAT	1860
TGATTTTATA AGGAATCTCA ATAATAACGA TTTGTTCTT ACCACCTTTT AGCTTTTCAA	1920
TTTCAGTCTT GGAACGAACA ACCACGCGCC CTTTCCCAGT CTCATAAGCT TTCTTGATTT	1980
CATCAGGACC CTGAATAATA GCCCCTGTAG GGAAGTCTGG TCCAGGCAAG AATTCCATGA	2040
GTTTATCAAT CTTTGAGTT GGGTGGTCAA TCATGTAAAC TGCAGCATCT ATGACCTCAG	2100
CTAAATTATG GGGAGGAATG TCTGTGGCAT AACCAGCCGA AATCCCAGTC GAACCATTGA	2160
CCAAGAGGTT TGGAAAGGCT GCTGGCAAGA CCGTTGGTTC TTTCTCCGTA TCGTCAAAGT	2220
TCCATGCAAA AGGAACTGTC TTTTCTCTGA TATCCTGAAG AAGGTAGCCT GCAATTCAG	2280
ACAAACGTGC CTCAGTATAA CGCATAGCCG CAGGAGGATC TCCGTCCATA GAACCGTTAT	2340
TACCGTGCAT TTCAACTAGA ATCTCAGAT TTTTCCAGTT CTGTGACATA CGAACCATGG	2400
CATCATAGAT AGAAGAATCC CCGTGTGGT GGAATTTCCC CATGATGTTT CCGACTGACT	2460
TGGCCGACTT ACGGTAGCTC TTGTCAAAAG TATTGCTATC CTTATTCATA GAATAAAGAA	2520
TACGGCGCTG AACCGGCTTC AACCCATCAC GAATATCTGG CAAAGCCCGG TCTTGAATAA	2580
TGTACTTGGA GTAGCGACCA AAGCGCTCTC CCATGATGTC CTCCAGGGAC ATGTTTGTGA	2640
TGTTAGACAT AAGATACAAA GCCCATAAAA TACCAAGTGA AAATAGAAAA TTCTTGAAGT	2700
AAGCAAACCT ACAAGAGAAT TTATCTTTT CACACAGTAT CTAGGGCGTG TTCAACTCCT	2760
TTCAAAGAAT GTAGAGTAGG TTTTATGCA GTAAAAGATA TTTTACGGGA ATTCCTCCCC	2820
TGTTCAAGTA CGATAAGTAA CCAAACATC CTGTTTGTAT TTTTCAATAT GAAAACTGG	2880
TTTTCACAAA TTAGTCTTAG TTTGTGTCTT AGCCGCTCCC TTAAGCGCCT CTTTGAGATA	2940

373

AGCACTCATA GCAGATTCTT CATTAATAAT CCTGCAATT TTTCAAACCA AGATTTTCAA	3000
ACTGCTTTTT CACATAGTCA TTCACATCCG ACTCTAATTT CCAGTTTACT AACATATTAT	3060
TTTCTTTTCAT TAAAACACTG TCGTTTCTTC TAGCGTAAAC TTGACATTAT CTTCAATCCA	3120
TTTACGGCGT GGTTCACCT TATCTCCCAT GAGAACATTG ACGCGGCGTT CGGCGCGCGC	3180
TAAATCTTCA ATTGTGACAC GGATGAGGGT ACGTGTCTT GGTTCATGG TTGTTCCCA	3240
GAGCTGGTCC GCATTCATCT CACCAAGTCC TTTGTATCGT TGGAGGGTAG CGCCTTTACC	3300
GAAGTGTTTA CGGAGTCTT CTAGTTCTCC GTCCGTCCAA GCGTAGGCCA CTTCTTCTTT	3360
CTTGCCTTTA CCTTTGGACA TCTTGTAAG AGGTGGGAGG GCAATATAGA CATGACCTGC	3420
CTCGACTAGC GGACGCATGT AACGGTAGAA AAATGTCAAG AGCAAGGTCT GGATATGGGC	3480
ACCGTCGGTA TCCGCATCGG TCATGATAAT GATCTTATCA TAGTTGGCAT CTTCAATAGA	3540
GAAGTCTGCT CCAACACCCG CACCAATGGT ATAAATCATG GTATTGATCT CTTCAATTTT	3600
GAGGATATCC GCCATCTTGG CCTTGGCTGT ATTGACAACC TTACCACGAA GAGGTAGAAT	3660
AGCCTGGAAC TTGCGGTAC GACCTTGTTT GGCAGAACCA CCGGCAGAGT CCCCCCAAC	3720
TAGATAGAGT TCATTCTTAG CAGGATTCTT AGATTGGGCT GGGGTCAATT TCCCAGACAA	3780
CAAGCCCTTA TCTTCTTGT TTTCTTCCC ATTTGGGCTC TCATCACGCG CTTACGTGC	3840
TGCTTCACGA GCATCACGGG CCTTGATAGC CTTGCGGATG AGGTAGAAG CTAATCCCC	3900
ATTTTCCATA AGGAAAAAGG TCAACTTATC AGCCACTATT CCATCCACAA CTGGGCGAGC	3960
TAGGGGGCTT CCTAGTTTAT CCTTGGTCTG TCCTTCAAAC TGCAAGTGTT CTTCAGGAAC	4020
TAAGATAGAA AGAACGGCCG CTAGTCCCTC ACGATAGTCT GAACCTTCAA GGTTTTTATC	4080
TTTTTCCTTG AGAAGACCTG TTTTACGTGC ATAGTCATTC ATGACCTTG TAATGGCAGA	4140
CTTGAGTCCT GTCTCGTGC GTCCACCGTC CTTGGTGCGA ACGTTATTGA CAAAAGATAG	4200
AATGTTATCT GAGAATCCGT CATTTGACTG GAGGGCTACT TCCACTTGAA AACCATTGTC	4260
TTCCCTTCA AAGTAAAGAA CTGGCGTCAA GATTTCCTTA TCTTCGTTGA GATAAGAAAC	4320
AAAATCTTGT ACTCCATTCT CATAGTGGAA CTCAATCGCT TCATTTGTTT GCTTGTCGGT	4380
TAAAGACAAG GTCACATTTT TCAAGAGAAA GGCTGATTCA TTAAGGCGCT CTGAAATGGT	4440
ATTGTAATTG AAATCTGTCT TAGAAAATAT AGTCGCGTCA GGCATAAAAG TAACTTTGGT	4500
GCCTGTTTTA GACTTGGGTG CTGTACCGAT TTTCTTCAA GTGCGTACAG GTTTTCCACC	4560
ATTTTCGAAA CGTTGCTTGT AACTGCGCC ATCAGGGTA ATTTCAACTT CTAACCAGCT	4620
AGAAAGGGCG TTAACAACGG AAGAACCAC TCCGTGAAGT CCACCTGATG TCTTATAGCC	4680

374

ACCTTGACCG AATTTCCCTC CGGCATGAAG AATGGTAAAG ATAACCTCAA CAGTTGGAAT 4740
 TCCCATAGCG TGCATACcTG TCGGCATCCC ACGTCCATGG TCTTGAACCG TTAGACTACC 4800
 GTCTTTATTG ATAGTTACAT CAATACGATC ACCAAACCCA GACAAGGCTT CATCGACTGC 4860
 ATTATCAACG ATTTCCCAAA CTAGGTGATG AAGACCAGCG CCATCGGTCG ATCCAATATA 4920
 CATCCCTGGA CGTTTTCGGA CCGCATCCAA CCCTTCTAGC ACCTGAATAG CATCATCATT 4980
 ATAATTGTTA ATATTGATTT CCTTTTTTGA CACAAGGAAC CTCCTATTCG TTCATCTTTA 5040
 CTATTCTACA GGTTTTCCAA GGATTTTGCA AAATTTTTCT TTCTCCGATG TGACAATTTC 5100
 AGCAGAGATT CTCTGCTTTT CTTTCCCAAT TCATGATATA ATAGGAGTAT GATTACAATA 5160
 GTTTTATTAA TCCTAGCCTA TCTGCTGGGT TCGATTCCAT CTGGTCTCTG GATTGGACAA 5220
 GTATTCTTTC AAATCAATCT ACGCGAGCAT GGTTCCTGGTA ACACTGGAAC GACCAACACC 5280
 TTCCGCATTT TAGGTAAGAA AGCTGGTATG GCAACCTTTG TGATTGACTT TTTCAAAGGA 5340
 ACCCTAGCAA CGCTGCTTCC GATTATTTTT CATCTACAAG GCGTTTCTCC TCTCATCTTT 5400
 GGACTTTTGG CTGTTATCGG CCATACCTTC CCTATCTTTG CAGGATTTAA AGGTGGTAAG 5460
 GCTGTCGCAA CCAGTGCTGG AGTGATTTTC GGATTTGCGC CTATCTTCTG TCTCTACCTT 5520
 GCGATTATCT TCTTTGGAGC TCTCTATCTT GGCAGTATGA TTTCACTGTC TAGTGTCACA 5580
 GCATCGATTG CGGCTGTTAT CGGGGTCTG CTCTTTCCAC TTTTGGGTTT TATCCTGAGT 5640
 AACTATGACT CTCTCTTCAT CGCTATTATC TTAGCACTTG CTAGTTTGAT TATCATTCGT 5700
 CATAAGGACA ATATAGCTCG TATCAAAAAT AAAACTGAAA ATTTGGTCCC TTGGGGATTG 5760
 AACCTAACCC ATCAAGATCC TAAAAAATAA AATGCCAGTT CTGTACTGCC CCCAAACAGT 5820
 TAGACAAATA ATTTATCCAA AGGATTTAGT TCTGTACTGC ACAGGACTAA GTCCTTTTAG 5880
 TTTTACCTTA ATTCGTTTGT TGTGTAGTA ATCAATATAG TCTATAATGG CTTGTTCCAA 5940
 TTGATTAAAGT GATTTAAATG TTTTCTCATA GCCATAAAAC ATTTCCGATT TTAATAATGCC 6000
 AAAGAAAGAT TCCATCCTAC CGTTGTCTTG GCTGTTGCC TTACGTGACA TGGATGCTTG 6060
 AATCCCTTA CTCTCTAGGA ACCGATGATA AGAATCGTGT TGGTATTGCC AGCCTTGGTC 6120
 ACTATGGAGA ATCGTATTCT CGTAGTGCTT CTCTGTGAAT GCCTGTTCCA A 6171

(2) INFORMATION FOR SEQ ID NO: 38:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 18475 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: double
 - (D) TOPOLOGY: linear

375

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 38:

TATTACAAAT AAAAAACCG AGGAGTGCTT TATGAAAGCC TATACTTATG TTAAACCAGG	60
ACTTGCTTCT TTTGTTGATG TAGACAAACC AGTTATTCGC AAGCCAACAG ACGCTATTGT	120
GCGTATTGTA AAAACCACTA TTTGTGGAAC AGACCTCCAT ATTATCAAAG GGGATGTTCC	180
TACTTGCCAA AGTGGTACCA TTCTTGGCCA CGAAGGGATT GGGATTGTTG AAGAAGTTGG	240
GGAAGGAGTT TCCAAC TTCA AAAAAGGTGA CAAGGTCTTG ATTTCTTGCG TCTGTGCCTG	300
TGCTAAATGC TACTACTGTA AAAAGGAAT TTATGCTCAC TGTGAAGACG AAGGGGGCTG	360
GATTTTCGGT CACTTGATTG ATGGTATGCA GGCTGAATAT CTACGTGTCC CTCATGCAGA	420
TAATACTCTT TACCATACTC CAGAAGACTT GTCAGATGAA GCTTTGTTA TGCTGTGAGA	480
CATTCTGCCT ACTGGATATG AAATTGGTGT CTTAAAAGGG AAAGTAGAAC CTGGTTGCAG	540
CGTAGCCATT ATTTGGTTCAG GTCCAGTTGG ATTTGGCTGCT CTTTAAACAG CCCAATTCTA	600
TTCACCAGCT AAATTGATTA TGGTAGACCT AGACGATAAC CGCTTGGAAC CTGCCCTATC	660
ATTCGGTTCG ACTCATAAGG TTAATTCTTC AGACCTTGAA AAAGCCATTA AAGAAATTTA	720
TGATTTGACA GATGGTCGTG GTGTGGATGT CGCTATCGAA GCTGTTGCTA TTCCTGCAAC	780
ATTTGATTTT TGTCAAAAGA TTATCGGTGT AGACGGAACG GTTGCCAACT GTGGTGTGCA	840
TGGTAAACCA GTTGAATTCG ATTTAGATAA ACTTTGGATT CGCAACATCA ATGTAACAAC	900
TGGTTTGSTA TCTACAAATA CCACTCCACA ATTTGTTGAA GCACTTGAAA GTCATAAGAT	960
TGAACCGGAA AAATTGGTAA CTCCTATTTT CAACTCAGT GAAATTGAAA AAGCCTACGA	1020
AGTCTTCAGT AAGGCAGCAG ACCACCATGC CATTAAGGTC ATTATCGAAA ACGATATCTC	1080
AGAAGCCTAA GTAGTAAAAA TATTTTGTG CATAAGTAAA TAGAAATTCA GTCATCCATC	1140
AGATGGCTGG ATTTTATATC AAAAAATTAA GAAATGAGCA TATTTCTTTC CTTGTCTGGC	1200
GGAATTGGTT ATAATATACG GTACAAAGGA ATGAATGAAT ATGTATCGTG TTATAGAAAT	1260
GTACGGAGAT TTTGAACCGT GGTGGTTCTT AGAAGGTTGG GAAGAAGATA TTGTAGCAAG	1320
TAGAAAATTT GACCAGTATT ATGATGCTCT CAAATACTAC AAAACTTGCT GGTTTAGATT	1380
GGAACAAGAA TCGCCTCTTT ATAAAAGTAG AAGCGACTTG ATGACCATT TTTGGGACCC	1440
GGAAGACCAA CGCTGGTGTG ATGAATGTGA TGAGTATTTA CAACAATACC ATTCTTTGGC	1500
TCTTTTGAG GATGAGCAGG TTATCCCAGA CGAAAACTA CGCTCAGGCT ATGAAAAACA	1560
AACCAGTCAG GAAAGGAATC GTTCTTGCCG TATGAAATTA AAATAGAGAA AAGTAAC TTT	1620
TTTGAGTTG CTTTTTTTAT TTTTCTAACT CTTTCCGAAT AGTATAGGTG AGGAGGTAAG	1680

376

TATGGTTCAA GAAATTGCAC AAGAAATCAT TCGTTCAGCT CGGAAAAAAG GGACGCAGGA	1740
TATCTATTTT GTCCCTAAGT TAGACGCCTA TGAGCTTCAT ATGAGGGTAG GAGACGAGCG	1800
CTGTAAAAAT GGTAGCTATG ATTTTGAAAA GTTTGCAGCC GTTATCAGTC AC'TTTAAGTT	1860
TGTGGCGGGT ATGAATGTGG GAGAAAAAAG ACGTAGTCAA CTGGGTTCCT GTGATTATGC	1920
CTATGACCAT AAGATAGCGT CTCTACGTTT ATCTACTGTA GGCGATTATC GGGGGCATGA	1980
GAGTTTGGTT ATCCGTTTGT TGCACGATGA GGAGCAGGAC CTGCATTTTT GGTTCAGGA	2040
TATTGAAGAA TTAGGCAAGC AGTACAGGCA ACGGGGACTC TATCTTTTGT CTGGTCCGGT	2100
TGGGAGTGGT AAGACGACCT TGATGCATGA ATTGTCCAAG TCACTCTTTA AAGGACAGCA	2160
AGTTATGTCC ATCGAAGATC CTGTCGAAAT CAAGCAGGAC GACATGCTTC AGTTGCAGTT	2220
GAACGAAGCA ATCGGCCTAA CCTATGAAAA TCTAATCAAA CTTTCCTTGC GTCATCGACC	2280
AGATCTCTTG ATTATCGGAG AAATTCGTGA CAGCGAGACG GCGCGTCAG TGGTCAGAGC	2340
TAGTTTGACA GGTGCGACAG TCTTTTCAAC CATTACAGCC AAGAGTATCC GAGGTGTTTA	2400
TGAGCGTCTG CTGGAGTTGG GTGTGAGTGA AGAAGAATTG GCAGTTGTTC TGCAAGGAGT	2460
CTGCTACCAG AGATTAATCG GGGGAGGAGG AATCCTTGAC TTTGCAAGCA GAGATTATCA	2520
AGAACACCAA GCAGCCAAGT GGAATGAGCA AATTGACCAG CTTCTTAAAG ATGGACATAT	2580
CACAAGTCTT CAGGCTGAGA CGGAAAAAAT TAGCTACAGC TAAGCAAAAA AATATCATCA	2640
CCCTATTTAA CAATCTCTTT TCTAGCGGTT TTCATCTGGT GGAGACTATC TCCTTTTGTAG	2700
ATAGGAGTGC TTTGTTGGAC AAGCAGTGTG TGACCCAGAT GCGTGTGGGC TTGTCTCAGG	2760
GGAAATCATT CTCAGAAATG ATGGAAAGTT TGGGATGTTT AAGTGCTATT GTCATCAGT	2820
TATCCCTAGC TGAAGTTCAT GGCAATCTCC ACCTGAGTTT GGGAAAGATA GAAGAATATC	2880
TGGACAATCT GGCTAAGGTC AAGAAAAAAT TGATTGAAGT AGCGACCTAT CCCTTGATTT	2940
TGCTGGGTTT TCTTCTCTTA ATTATGCTGG GGCTACGGAA TTACCTGCTC CCACAACGG	3000
ATAGTAGCAA TATTGCCACC CAAATTATCG GTAATCTGCC CCAAATTTTT CTAGGCATGG	3060
TAGGGCTTGT TTCCGTGCTT GCCCTTTTAG CACTCACTTT TTATAAAAGA AGTTCTAAGA	3120
TGAGTGCTT TTCTATCTTA GCACGCCTTC CCTTTATTGG AATCTTTGTG CAGACCTACT	3180
TGACAGCCTA TTATGCACGT GAATGGGGGA ATATGATTTC ACAGGGAATG GAGTTGACGC	3240
AGATTTTTCA AATGATGCAG GAACAAGGTT CCCAGCTCTT TAAAGAAGTC GGTCAAGATC	3300
TGGCTCAAAC CCTGAAAAAT GGCCGTGAAT TTTCTCAGAC GATAGGAACC TATCCTTTCT	3360
TTAGGAAGGA ATTGAGTCTC ATCATAGAGT ATGGGGAAGT TAAGTCCAAC CTGGGTAGTG	3420
AGTTGGAAAT CTATGCTGAA AAAACTTGGG AAGCCTTTTT TACCCGAGTC AACCGCACCA	3480

377

TGAATTTGGT GCAGCCACTG GTTTTATCT TTGTGGCACT GATTATCGTT TTACTTTATG	3540
CGGCAATGCT CATGCCCATG TATCAAAATA TGGAGGTAAA TTTTAAAAAT GAAAAAATG	3600
ATGACATTCT TGA AAAAAGC TAAGGTAAA GCTTTTACAT TGGTGGAGAT GTTGGTGGTC	3660
TTGCTGATTA TCAGCGTGCT TTTCTTGCTC TTTGTACCTA ATCTGACCAA GCAAAAAGAA	3720
GCAGTCAATG ACAAAGGAAA AGCAGCTGTT GTTAAGGTGG TGGAAAGCCA GGCAGAACTT	3780
TATAGCTTAG AAAAGAATGA AGATGCTAGC CTAAGAAAGT TACAAGCAGA TGGACGCATC	3840
ACCGAAGAAC AGGCTAAAGC TTATAAGAA TACAATGATA AAAATGGAGG AGCAAAATCGT	3900
AAAGTCAATG ATTAAGGCCT TTACCATGCT GGAAAGTCTC TTGGTTTGG GACTTGTGAG	3960
TATCCTTGCC TTGGGCTTGT CCGGCTCTGT CCAGTCCACT TTTTCAGCGG TAGAGGAACA	4020
GATTTTCTTT ATGGAGTTG AAGAACTCTA TCGGGAAACC CAAAAACGCA GTGTAGCCAG	4080
TCAGCAAAAG ACTAGTCTGA ACTTAGATGG GCAGACGCTT AGCAATGGCA GTCAAAAGTT	4140
GCCAGTCCCT AAAGGAATTC AGGCCCCATC AGGCCAAAGT ATTACATTTG ACCGAGCTGG	4200
GGGCAATTCG TCCCTGGCTA AGGTTGAATT TCAGACCAGT AAAGGAGCGA TTCGCTATCA	4260
ATTATATCTA GGAAATGGAA AAATTAAACG CATTAAGGAA AAAAAAATT AGGGCAGTGA	4320
TTTTACTGGA AGCAGTAGTC GCTCTAGCTA TCTTTGCCAG CATTGCGACC CTCCTTTTGG	4380
GACAAATTCA AAAAAATAGG CAAGAGGAAG CAAAAATCTT GCAAAAGGAA GAAGTCTTGA	4440
GGGTAGCTAA GATGGCCCTG CAGACGGGGC AAAATCAGGT AAGCATCAAC GGAGTTGAGA	4500
TTCAGGTATT TTCTAGTGAA AAAGGATTGG AGGTCTACCA TGGTTCAGAA CAGTTGTTGG	4560
CAATCAAAGA GCCATAAGGT CAAGGCTTTT ACCTTGTTAG AATCCCTGCT TGCCTCATT	4620
GTCAATCAGT GGGGATTACT CCTTTTCAA GCTATGAGTC AGCTCCTCAT TTCAGAAGTT	4680
CGCTACCAGC AACAAAGCGA GCAAAAGGAG TGGCTCTTGT TTGTGGACCA ACTTGAGGTA	4740
GAATTAGACC GTTCGCAGTT CGAAAAAGTA GAAGGCAATC GCCTATACAT GAAGCAAGAT	4800
GGCAAGGACA TCGCCATCGG TAAGTCAAAG TCAGATGATT TCCGTAAAAC GAATGCTCGT	4860
GGTCGAGGTT ATCAGCCTAT GGTTTATGGA CTCAAATCTG TACGGATTAC AGAGGACAA	4920
CAACTGGTTC GCTTTCATTT CCAGTTCCAA AAAGGCTTAG AAAGGGAGTT CATCTATCGT	4980
GTGGAAAAAG AAAAAAGTTA AGGCAGGTGT TCTCCTCTAC GCAGTCACCA TAGCAGCCAT	5040
CTTTAGTCTT TTGTTGCAAT TTTATTTGAA CCGACAAGTC GCCCACTATC AAGACTATGC	5100
TTTGAATAAA GAAAAATTGG TTGCTTTTGC TATGGCTAAA CGAACCAAAG ATAAGGTTGA	5160
GCAAGAAAGT GGGGAACAGT TTTTAACTCT AGCTCAGGTA AGCTATCAAA ACAAGAAAAC	5220

378

TGGCTTAGTG ACGAGGGTTC GTACGGATAA GAGCCAATAT GAGTTTCTGT TTCCTTCAGT	5280
CAAAATCAAA GAAGAGAAAA GAGATAAAAA GGAAGAGGTA GCGACCGATT CAAGCGAAAA	5340
AGTGGAGAAG AAAAAATCAG AAGAGAAGCC TGAAAAGAAA GAGAATTCAT AGTCAATTC	5400
ACTATAATGC GTTGAATCCA GAATAGTCCA CTGTAGTTTC TAGAAAATTG CTGGAAATGG	5460
ATGTTAAGCT CCAATTCATT TGTTTATATC TTATTTTCAGT TTACTATACT TTGTGCTAAA	5520
TTAAAGATAT GAAACATGAT TTTAACCACA AAGCAGAAAC TTTCGATTCC CCTAAAAATA	5580
TCTTCCTCGC AAACCTGGTA TGTCAAGCAG CCGAGAAACA GATTGATCTT CTATCAGACA	5640
AAGAAATTTT AGATTTCGGT GGTGGCACGG GTCTATTAGC CTGCCCCCTA ACCCCTAGCC	5700
AAGCAGGCTA AGTCAGTCAC TCTTGTAGAC ATTTCTGAGA AAATGTTGGA GCAAGCTCGT	5760
TTGAAAGTGG AGCAGCAAGC AATCAAGAAT ATCCAGTTT TGGAGCAAGA TTTACCGAAA	5820
AATCCCTTGG AGAAAGAGTT TGATTGCCTT GCTGTTAGTC GGGTTCCTCA TCATATGCCT	5880
GATTTGGATG CGGCTCTCTC ACTGTTTCAT CAACATTTGA AGGAAGATGG GAAACTCATC	5940
ATTGCTGATT TTACCAAGAC AGAAGCTAAT CATCATGGAT TTGATTTAGC TGAAGTGGAA	6000
AACAAGCTAA TTGAGCATGG TTTTTCATCT GTGCATAGTC AGATTCTCTA TAGTGCTGAA	6060
GACCTGTTTC AAGGAAATCA CTCAGAATTC TTTTAAATAG TAGCCCCAAA ATCACTCGCC	6120
TAGTCAGGGA GTGATTTTTC TATAAGGATG GAAAAAGAA GGGAAATTTG GTAAGATAGG	6180
AATATGGATT TTGAAAAAAT TGAACAAGCT TATACCTATT TACTAGAGAA TGTCCAAGTC	6240
ATCCAAAGTG ATTTGGCGAC CAACTTTTAT GACGCCTTGG TGGAGCAAAA TAGCATCTAT	6300
CTGGATGGTG AAACCTGAGCT AAACCAGGTC AAGGAGAACA ATCAAACCTT TAAGCGTTTA	6360
GCACTACGCA AAGAAGAATG CCTCAAGACC TACCAGTTTC TCTTGATGAA GGCTGGGCAA	6420
ACAGAACCCCT TGCAGGCCAA TCACCAGTTT ACACCGGATG CTATTGCTTT GCTTTTGGTG	6480
TTTATTGTGG AAGAGTTGTT TAAAGAGGAG GAAATTAATA TCCTCGAAAT GGCTTCTGGG	6540
ATGGGAATTC TAGGCGCTAT TTTCTTGACC TCGCTTACTA AAAAGGTGGA TTACTTGGA	6600
ATGGAAGTGG ATGATTTGCT GATTGATCTG GCAGCTAGCA TGGCAGATGT AATTGGTTTG	6660
CAGGCTGGCT TTGTCCAAGG AGATGCCGTT CGCCACAAA TGCTCAAAGA AAGCGATGTG	6720
GTCATCAGTG ACTTGCCTGT CGGCTATTAT CCTGATGATG CCGTTGCGTC GCGCCATCAA	6780
GTTGCTTCTA GCCAAGAACA TACTTACGCC CATCACTTGC TCATGGAACA AGGGCTTAAG	6840
TACCTCAAGT CAGACGGATA CGCTATTTTT CTAGCTCCGA GTGATTGTT GACCAGTCCT	6900
CAAAGTGATT TGTAAAAAGA ATGGCTGAAA GAAGAGGCGA GTCTGGTTGC TATGATTAGT	6960
CTGCCTGAAA ATCTCTTTGC TAATGCCAAA CAATCTAAGA CTATTTTAT CTTACAGAAG	7020

AAAAATGAAA TAGCAGTAGA GCCTTTTGTT TATCCACTTG CTAGCTTGCA AGATGCAAGT	7080
GTTTAAATGA AATTTAAAGA AAATTTTCAA AAATGGACTC AAGGTACTGA AATATAAAAT	7140
AGATTTTGTT ATAATAGTTG AAAACGCTTA AAAAGGGGTA TCATGTTATG ACAAAAACAA	7200
TTGCAATCAA TGCAGGAAGT TCAAGTTTGA AATGGCAATT ATACTTAATG CCAGAAGAAA	7260
AAGTATTGGC GAAAGGTTG ATTGAACGTA TCGGTTTGAA AGATTCAATT TCAACTGTAA	7320
AATTTGACGG CCGTCTGAA CAACAAATTT TGGATATTGA AAATCATATA CAAGCCGTTA	7380
AAATTTTATT GGATGACTTG ATTCGTTTCG ATATTATCAA GGCTTATGAC GAGATTACAG	7440
GTGTTGGACA TCCTGTTGTT GCTGGTGGAG AATATTTCAA AGAATCAACA GTTGTGAGG	7500
GAGATGTTT AGAAAAAGT GAAGAGTTGA GTTGTGTTGC TCCTCTACAC AACCCGGCCA	7560
ATGCAGCAGG TGTTTCGTGCC TTCAAGGAAT TGTGCCAGA CATTACCAGT GTAGTTGTTT	7620
TTGATACTTC CTTCCACACA AGTATGCCAG AGAAAGCTTA TCGCTACCCT CTACCAACAA	7680
AATATTACAC AGAAAAACAAG GTTCGTAAAT ACGGTGCTCA TGGTACAAGT CACCAGTTTG	7740
TAGCAGGAGA AGCTGCAAAA CTCTTGGGAC GTCCATTAGA AGACTTGAAG TTAATTACCT	7800
GTCATATTGG TAACGGAGGC TCAATTACAG CTGTGAAAGC CGGCAAACTC GTAGACACTT	7860
CTATGGGGTT CACTCCTCTT GGTGGTATTA TGATGGGAAC GCGTACAGGG GATATTGATC	7920
CAGCTATCAT TCCTTATTTA ATGCAATATA CAGAGGATT TAACACACCA GAAGATATCA	7980
GTCTGTCTCT TAACCGTGAA TCAGGTCTTT TGGGAGTTTC TGCTAATTCT AGCGATATGC	8040
GCGATATAGA AGCAGCTGTA GCAGAAGGA ATCAGCAGGC TAGCTGGCT TATGAAATGT	8100
ATGTTGACCG TATCCAAAAA CATATCGGTC AGTACCTTGC AGTGCTAAAT GGAGCAGATG	8160
CCATTGTTTT CACAGCAGGT GTCGGTGAAA ATGCAGAGAG TTTCCGTCGT GATGTAATCT	8220
CAGGGATTTC GTGGTTTGGT TGTGATGTTG ATGATGAAAA GAATGTCTTT GCGTTACAG	8280
GAGACATCTC AACAGAGGCA GCTAAAATCC GTGTCTTGGT TATTCCAACA GATGAAGAAT	8340
TAGTCATGCG CCGTGACGTT GAACGCTTGA AAAAAAAGT GAAACTAAAA AAATATTCAA	8400
TACAAGGAGT TGGGAAAGTT ATTTTCCAG CTCCTTTTTC TGATGAAATT GTCCAAAACC	8460
TTGCTATGAT TGGCTTTTTC GAAAAATATG GTATAATAGT AGTAATTTAA TAGATGGAGT	8520
TGAGTTTGA AGAAAACTT TCGTGAAAA AGACAGAAAG ATTTTAAGGC GATTTTCAAG	8580
GAGGGGACAA GTTTTGCTAA TCGCAAATTT GTGGTCTACC AATTAGAAAA CCAGAAAAAC	8640
CGTTTTCGAG TAGGTCTATC AGTTAGCAAA AACTGGGGA ATGCCGTCAC TAGAAATCAA	8700
ATTAAGCGAC GGATTCGGCA TATTATCCAG AATGCAAAAG GGAGTCTGGT AGAAGATGTC	8760

380

GACTTTGTTG TCATTGCTCG AAAAGGAGTC GAAACCTTGG GATACGCAGA GATGGAGAAA	8820
AATCTACTCC ATGTATTAAA ATTATCAAAG ATTTACCGGG AAGGAAATGG GAGTGAAAAA	8880
GAAACTAAAG TTGACTAGTT TGCTAGGACT GTCTCTGTTA ATCATGACAG CCTGTGCGAC	8940
TAATGGGGTA ACTAGCGATA TTACAGCCGA ATCGGCTGAT TTTTGGAGTA AATTGGTTTA	9000
CTTCTTTGCG GAAATCATTC GCTTTTATC GTTTGATATT AGTATCGGAG TGGGGATTAT	9060
TCTCTTTACG GTCTTGATTC GTACAGTCCT CTTGCCAGTC TTTCAGGTGC AAATGGTGGC	9120
TTCTAGGAAA ATGCAGGAAG CTCAGCCACG CATTAAGGCG CTTGAGAAC AATATCCAGG	9180
TCGAGATATG GAAAGCAGAA CCAAAC TAGA GCAGGAAATG CGTAAAGTAT TTAAAGAAAT	9240
GGGTGTCAGA CAGTCAGACT CTCTTTGGCC GATTTTGATT CAGATGCCGG TTATTTTGGC	9300
CCTGTTCCAA GCCCTATCAA GAGTTGACTT TTAAAGACA GGTCATTTCT TATGGATTAA	9360
CCTTGGTAGT GTGGATACAA CCCTTGTTCT TCCGATTTTA GCAGCAGTAT TCACCTTTTT	9420
AAGTACTTGG TTGTCCAACA AAGCTTTGTC TGAGCGAAAT GGCGCTACGA CTGCGATGAT	9480
GTATGGGATT CCAGTCTTGA TTTTATCTT TGCAGTTTAT GCGCCAGGTG GAGTCGCCCT	9540
ATACTGGACA GTGTCTAATG CTTATCAAGT CTTGCAAACC TATTTCTTGA ATAATCCATT	9600
CAAGATTATC GCAGAGCGCG AGGCCGTAGT ACAGGCACAA AAAGATTTGG AAAATAGAAA	9660
AAGAAAAGCC AAGAAAAAGG CTCAGAAAAC GAAATAAATA AGGAGGAATC TGGTAGTGGT	9720
AGTATTTACA GGTCAACTG TTGAAGAAGC AATCCAGAAA GGATTGAAAG AATTAGATAT	9780
TCCAAGAATG AAGGCTCATA TCAAAGTCAT TTCTAGGGAG AAAAAAGGCT TTCTTGGTCT	9840
ATTTGGTAAA AAACCAGCCC AAGTGGATAT TGAAGCGATT AGTGAAACGA CTGTTGTCAA	9900
AGCAATCAA CAGGTAGTAA AAGGCGTTCC GAAAAAATC AATGATTGA ACGAGCCTGT	9960
GAAGACGGTT AGTGAAGAAA CCGTTGACCT TGGTCATGTG GTTGATGCTA TTAATAAAT	10020
AGAGGAAGAA GGTCAAGGTA TTTCTGATGA AGTCAAGGCT GAAATCTTAA AACATGAAAG	10080
ACATGCCAGC ACTATCTTAG AAGAACTGG TCACATTGAG ATTTTAAATG AACTTCAAAT	10140
CGAGGAAGCG ATGAGGGAAG AAGCAGGCGC TGATGACCTT GAAACTGAGC AAGACCAAGC	10200
TGAAAGTCAA GAACTAGAAG ACTTGGGCTT GAAAGTTGAA ACGAACTTTG ATATTGAACA	10260
AGTAGCTACG GAAGTAATGG CTTATGTTCA AACGATTATT GATGACATGG ATGTTGAGGC	10320
TACACTTTCA AATGATTATA ACCGTCGTAG CATCAATCTA CAAATTGACA CCAACGAACC	10380
AGGTCGTATT ATCGGCTACC ATGGTAAAGT CTTGAAGGCC TTGCAACTGT TGGCTCAAAA	10440
TTATCTTTAC AACCGCTATT CCAGAACCTT CTACGTTACA ATCAATGTCA ATGATTATGT	10500
CGAACACCGT GCAGAAGTCT TGCAGACCTA TGCGCAAAAA TTGGCGACTC GTGTTTTGGA	10560

381

AGAAGGGCGC AGTCATAAAA CAGATCCAAT GTCAATAGC GAACGCAAGA TTATCCATCG	10620
TATTATTTCA CGTATGGATG GCGTGACTAG TTA CTCTGAA GGTGATGAGC CAAATCGCTA	10680
TGTTGTGTGA GATACAGAAT AAGTAAAATC AGGTTTATCC TGATTTTTTG CTAGTTAGAG	10740
GAGGTTAAAC TGATGTTGAA TAAGATAAGA GACTATTTAG ACTTTGCTGG TTTGCAGTAC	10800
CGTAATCCTG ATAAAGCGGG AGCAGAGCCA GAGAAGATGC TGGCATTCCG CCACAAAGGA	10860
CAAGAGGCCC GAAAGGTTTT TACAGAACTG GCCAAAGCCT TTCAAGCAAG CCATCCAGAA	10920
TGGCAACTCC AACAGACTAG CCAGTGGATG AATCAGGCCC AGCGTTTGAG ACCACATTTT	10980
TGGGTTTATC TACAGAGAGA CGGACAAGTG ACAGAACCTA TGATGGCCTT ACGTTTGTAT	11040
GGGACATCTA CTGACTTTGG AATTTCTTTG GAAGTCAGTT TCATCGAACG TAAGAAGGAT	11100
GAGCAAACAC TGGGCAAGCA GGCCAAAGTT TTAGACATTC CAACCGTTAA AGGGATTATAT	11160
TATCTAACCT ACTCTAATGG TCAAAGTCAA CGGTGGGAGG CGAATGAAGA AAAGCGTCGT	11220
ACTTTACGCG AGAAGGTGAG AAGTCAAGAA GTTCGAAAAG TTTTAGTGAA GGTAGATGTT	11280
CCTATGACAG AAAATTCGTC TGAAGAAGAA ATCGTAGAAG GCTTATTGAA GTCTTATCT	11340
AAAATCTTTC CCTATTATCT AGCTACGAGA AAATAAGATA ATTTGTAAAA CATCATAAAT	11400
CATACAGTCC AAGAGTGAAC AGTCCGCTGT GTAATCTTGT GTCTTTTGTG TTGCGCTTTC	11460
GCATTATATA ATAACTTAC AAAACAATT CAAAAGGAGA ACAATTATGG AAGTCGTTTC	11520
AAGTGTTCTA AATTGGTTTT CTAGCAATAT TTTGCAGAAT CCCGCATTTT TCGTAGGTTT	11580
ATTGGTGTTG ATAGGATATG CACTTTTGAA AAAACCTGCC CATGACGTTT TTTCAGGGTT	11640
TGTTAAAGCA ACAGTAGGGT ATATGTTGCT TAACGTGGGT GCTGGTGCTT TCGTTACAAC	11700
CTTTCGTCCA ATCTTAGCAG CTCTTAACTA CAAATCCAA ATTGGTGCAG CGGTTATCGA	11760
CCCTTACTTT GGACTTGCTG CAGCAAACAA CAAAATTGTA GCAGAGTTTC CAGATTTTGT	11820
TGGAAGTCA ACTACAGCTC TATTGATTGG TTTTGAATA AATATCTTGC TCGTAGCTCT	11880
TCGAAAGATT ACGAAGGTAA GAACCTCTT TATTACTGGT CACATCATGG TACAACAAGC	11940
TGCAACAGTA TCTCTTATGG TTCTATTCTT AGTACCACAA TTGCGCAATG CTTACGGTAC	12000
AGCAGCGATT GGTATCATCT GTGGACTTGA CTGGGCAGTT AGTTCAAATA TGACTGTTGA	12060
GGCAACTCAA CGCTTGACTG GTGGTGGCGG ATTTGCGATT GGTCAACCAAC AGCAATTTGC	12120
AATCTGGTTT GTAGATAAAG TAGCAGGACG CTTTGGTAAG AAAGAAGAAA GTTTAGACAA	12180
TCTTAAATTA CCTAAGTTCC TCTCAATCTT CCACGATACA GTTGTTCAT CTGCTACCTT	12240
GATGCTCGTA TTCTTCGAG CCATTCTTTT AATCTTGGGT CCAGACATTA TGTCTAATAA	12300

382

AGAAGTCATC	ACTTCAGGAA	CTCTATTCAA	TCCTGCTAAA	CAAGATTCT	TTATGTACAT	12360
TATCCAAACA	GCCTTTACCT	TCTCAGTTTA	CTTGTTTCGTT	TTGATGCAAG	GTGTCCGAAT	12420
GTTCGTATCT	GAGTTGACAA	ACGCCTTCCA	AGGTATTTCA	AACAAATTGT	TGCCAGGTTC	12480
ATTCCCAGCG	GTGACGTTG	CAGCTTCTTA	TGGATTTGGT	TCTCCAAATG	CTGTCTTGTC	12540
AGGATTTACC	TTTGGTTTGA	TTGGTCAATT	GATTACAATT	GTTTGTGCTCA	TCGTCTTTAA	12600
AAATCCGATT	CTTATTATTA	CAGGATTTGT	ACCAGTGTTC	TTTGACAATG	CAGCCATTGC	12660
GGTCTACGCT	GATAAACGCG	GCGGATGGAA	AGCGGCTGTT	ATCCTTTCCT	TTATATCAGG	12720
TGTCTTCAA	GTGCTCTAG	GAGCTCTTTG	TGTGGCCCTT	CTCGATTTGG	CATCTTATGG	12780
TGGTACCATT	GGAAATATCG	ACTTTGAATT	CCCATGGCTT	GGATTGGAT	ATATCTTCAA	12840
ATACCTTGGT	ATTGTTGGTT	ATGTACTTGT	GTGTCTCTTC	TTGCTTGTTA	TTCTCAACT	12900
TCAATTTGCC	AAAGCAAAG	ATAAAGAGAA	ATATTACAAC	GGTGAAGTTC	AAGAAGAAGC	12960
TTAGTATCTA	GAAAAGGAGA	AATAAAATGG	TTAAAGTATT	AGCAGCGTGC	GGAAATGGAA	13020
TGGGTTTATC	AATGGTTATC	AAGATGAAGG	TTGAAAATGC	TCTCCGTAAG	CTTAATCAAA	13080
CAGATTTTAC	AGTCAATTCA	TGCAGTGTGC	GTGAAGCTAA	AGGTTTAGCA	GTAGGATATG	13140
ACATCGTAAT	CGCTTCTCTT	CATTTGATTC	AAGAATTGGA	AGGGCGAACT	AATGGGAAGT	13200
TAATTGGGCT	TGATAACTTG	ATGGATGATA	AAGAAATCAC	CGAAAACTC	AGTCAAGCAC	13260
TACAGTAAAA	GGTTGGAGGG	GGCTGGACAG	AAACTGAGAG	TTATCGTTTC	TGTCCTTCTC	13320
CCTCTTTAAA	TAAAGGAGGC	AGATATGAAT	TTAAAACAAG	CTTTAATTGA	CAATGACTCG	13380
ATCCGACTAG	GTTTAGAGGC	TAACAATTGG	AAAGAAGCAG	TCAAGGTAGC	AGTAGATCCC	13440
TTAATTGAAA	GTGGGGCAAT	TTTGCCAGAG	TATTACGATG	CTATCATTGA	ATCGACTGAA	13500
GAGTATGGGC	CTTACTATAT	CTTGATGCCA	GGTATGGCTA	TGCCCCACGC	TAGACCTGAA	13560
GCAGGTGTGC	AAAGTGATGC	CTTTTCATTG	ATTACCTTAC	AAAATCCTGT	TGTATTTTCA	13620
GATGGGAAAG	AGGTATCTGT	TTTGTGGSCA	CTAGCAGCAA	CAAGTTCAAA	AATTCACACA	13680
AGTGTAGCCA	TTCCACAAAT	TATTGCCCTA	TTTGAATTAG	AAGATTCTAT	TGCACGTTTA	13740
CAGGCTTGCC	AGACTAAAGA	AGATGTCTTG	GCTATGATTG	AAGAATCTAA	GGATAGCCCT	13800
TATCTCGAAG	GATTGCATTT	GGAAAGTTAG	AAAGAGGAAT	AAAGAAATGA	CAAAAAGAAT	13860
ACCTAATTTA	CAAGTTGCAT	TAGACCATTG	AGACTTGCAA	GGAGCGATTA	AAGCAGCTGT	13920
TTCTGTTGGT	CAGGAAGTAG	ATATTATCGA	AGCTGGAAGT	GTTTGCTTGC	TTCAAGTTGG	13980
AAGTGAACTG	GCTGAAGTCT	TGCGTAGCCT	TTTCCCAGAT	AAGATTATTG	TGGCAGACAC	14040
AAAATGTGCT	GATGCTGGTG	GAACAGTTGC	TAAAAATAAT	GCGGTTTCGTG	GAGCAGACTG	14100

383

GATGACTTGT ATCTGTTGTG CAACCATCCC TACTATGGAA GCAGCTCTAA AGGCTATCAA	14160
GACTGAACGA GGAGAACCAG GCGAAATCCA GATCGAGCTT TATGGCGATT GGACTTTTGA	14220
ACAAGCTCAG CTTTGGCTAG ATGCAGGTAT CTCACAAGCT ATTTATCACC AATCTCGTGA	14280
TGCTCTTCTT GCTGGTGAAG CTTGGGGTGA AAAAGACCTT AATAAGGTTA AAAAAGTCAAT	14340
TGACATGGGC TTCCGTGTAT CTGTAACAGG TGGTCTAGAT GTAGATACTC TCAAAGTCTT	14400
TGAAGGTATT GATGTCTTTA CCTTTATCGC AGGTCGTGGA ATTACAGAGG CTGTGGATCC	14460
AGCAGGAGCA GCGCGTGCCT TCAAGGATGA AATCAAACGA ATTTGGGGGT AAATCATGGT	14520
ACGTCCAATT GGAATTTATG AAAAGGCAAC CCCAACACAC TGTACTTGGC TAGAAGCTTT	14580
AAATTTTGCC AAGGAGTTAG GCTTTGATTT TGTGAGATG TCTATTGACG AACGTGACGA	14640
GCGTTTAGCA AGACTTGACT GGAGTAAGGA AGAACGCTTG GAAGTTGTCA AAGCAATCTA	14700
TGAAAGTGGT GTTCGTATTC CTCTATCTG TTTTTCAGGC CATCGTCGCT ACCCATGGG	14760
TTCAAAAGAT CCAGTTCTAG AGGAAAAATC TCTAGAACTC ATGAAAAAAT GTATCGAATT	14820
AGCTCAAGAC TTGGGAGTTC GTACGATTCA ATTAGCTGGT TACGATGTTT ACTATGAGGA	14880
AAAGTCACCC CAGACACGCC AACGTTTAT CAAAAATTG AGAAAAGCCT GTGACTGGGC	14940
TGAAGAAGCT CAGGTGGTAC TTGCTATTGA AATTATGGAT GATCCTTTCA TCAGTAGCAT	15000
CGAAAAATAT TTGGCTATAG AAAAGAGAT TGACTCTCCC TTCCTCTTG TATATCCAGA	15060
TATTGGTAAT GTGTCTGCAT GGCATAATGA TATCTATAGT GAGTTTATC TTGGTCATCA	15120
TGCCATCGCA GCTCTCCATC TCAAGGATAC TTATGCAGTG ACAGAAAGTT CAAAGGGCCA	15180
GTTCCGAGAT GTACCTTTCG GGCAAGGTTG TGTCAAATGG GAAGAAGCTT TCGATATTTT	15240
AAAGGAAACC AATTATAATG GACCTTTCCT AATCGAAATG TGGTCTGAAA ATTGTGAAAC	15300
AGTAGAAGAA ACACGCGCAG CCATTCAAGA GCGCGAAGCT TTTCTCTATC CACTCATTAA	15360
GAAAGCAGGT TTGATGTAAG ATGAATCAAG TAATCAATGC TATGCGTAAA CGAGTCTGTG	15420
ATGCCAATCA ATCATTGCCA AAACATGGAC TTGTCAAATT TACCTGGGGG AATGTATCTG	15480
AAGTTAATCG CGAACTCGGT GTCATTGTTA TCAAACCATC AGGCGTGGAT TATGACGAAT	15540
TGACACCTGA AAACATGGTA GTGACTGATC TAGATGGTAA GATCCTAGAA GGGGATTTAA	15600
GACCATCTTC GCACCTCCCA ACTCATGTGC AATTATATAA GACTTGGTCA GAAATTGGTA	15660
GTGTGGTTCA CACCCATTTC ACAGAAGCTG TTGGTTGGGC TCAGGCAGGT CGTGATATTC	15720
CTTTCTACGG AACAAACCAT GCAGATTATT TCTACGGTTC AATCCCTTGC GCCCGTAGTT	15780
TGACCAAGGA CGAAGTAGAA GTGGCCTATG AAAAAGATAC TGGCCTGGTT ATCGTAGAAG	15840

384

AGTTTGAACA TCGCGGACTT AACCCGGTTG AAGTACCAGG AATTGTTGTA CGCAATCACG	15900
GTCCATTTCAC CTGGGGCAAA AATCCAGAGA ATGCTGTTTA TCACTCTGTC GTACTAGAGG	15960
AAGTATCAAA GATGAATCGC TTTACAGAAC AAATCAATCC AAGAGTTGGA CCTGCTCCCC	16020
AGTACATACT AGAAAAACAC TACCAACGTA AACATGGACC AAATGCTTAT TATGGTCAAA	16080
AGTAAGAACG ATGAAGGAGG AGAAAAAGAT AAATTTAGCT CCTCTTTTTA CATTTGATTT	16140
TTATTGAGAG TAAAGTTGGA GTTGAAGTAA TTTTAAAGA TTTTTTAGAA ATAGCGCTTG	16200
ATATATATAT GGTAAATAA AAAGAATTGC TGTGATATCA ATAGATTGG GGGATTTT	16260
AATATGGTAC TGGATAAGGC AAGTTGTGAT TTGCTTCAAT ATTTGATGGA TCAAGAAACG	16320
TCCAAAACGA TTATGGCGAT TTCGAAAGAT TTGAAAGAGT CAAGAAGGAA AATTATTAT	16380
CACATTGACA AAATCAATGC TGCTCTGGGT GACGAGGCGC TTCACATCAT TAGTATTCCA	16440
CGAATTGGTA TTCACTTAAC GGAAGAGCAG AGAGATGCTT GTTGTAAGT ATTATCGGAA	16500
GTAGATTTCG ACGATTATAT CATGAGTGC CATGAACGTA TGATGATAAT GTTACTATGG	16560
ATAGGTATTT CTAAAGAACG TATTACGATT GAAAAATTGA TAGAGTTAAC AGAGGTATCT	16620
AGGAATACTG TTCTCAATGA TTTGAATAGT ATTCTGTTATC AACTAACTTT GGAACAATAT	16680
CAGGTGATCT TGCAAGTGAG CAAGTCACAG GGATACAACC TTCATGCCA CCCTCTTAAT	16740
AAAATTCAGT ATCTTCAATC GCTTCTATAT CATATTTTTA TGGAAGAAAA TGCCACTTTT	16800
GTATCTATTT TAGAAGATAA GATGAAAGAG AGGTTAGATG ATGAGTGTTC GCTTCTGTT	16860
GAAATGAACC AATTTTTTAA GGAACAGGTT CCTTTAGTTG AACAAGATTT AGGAAGAAA	16920
ATAAACCATC ATGAAATAAC TTTTATGTTG CAGGTTCTAC CTTATTGCT GTTAAGCTGT	16980
CATAATGTTG AACAGTATCA AGAAAGACAT CAGGATATAG AGAAAGAATT TTCTTTGATA	17040
AGAAAAAGAA TAGAGTATCA GGTGTCTAAG AAATTAGGAG AACGGTTGTT TCAAAAGTTT	17100
GAAATTTCTT TGTGAGGACT TGAAGTTTCT CTTGTAGCTG TTCTCCTCCT CTCCTATCGT	17160
AAAGATTTGG ATATTCATGC AGAAAGTGAT GATTTTCGGC AATTAAAACT TGCTTTAGAA	17220
GAATTTATCT GGTATTTTGA ATCACAAATC CGAATGGAGA TTGAGAACAA GGATGATTTG	17280
TTACGAAATT TGATGATCCA CTGTAAGCC TTGTTATTTA GAAAGACTTA CGGTATTTTT	17340
TCTAAAAATC CTCTAACAAA ACAAATTCGA TCCAAGTATG GAGAATTATT TTTAGTCACT	17400
AGAAAACTG CGGAAATTTT AGAAGGAGCA TGGTTTATTC GGCTAACAGA CGATGATATT	17460
GCCTATTTGA CGATTCATAT TGGAGGATTT TTAATAATA CACCATCATC TCAAAAAAT	17520
ATGAAAAAG TTTATCTCGT TTGTGATGAA GGTGTTGCGG TTTCGAGACT TTTGCTGAAA	17580
CAATGCAAC TTTATTTTCC AAATGAGCAA ATTGACACTG TATTTACAAC AGAACATTT	17640

385

AAGAGTGTGG AAGATATTGC ACAAGTTGAT GTAGTGATTA CTAATAATGA TGATTTGGAT	17700
AGCAGATTTC CGATTTTAAAG GGTAAATCCT ATCCTTGAAG CAGAAGATAT TTTCAAAATG	17760
CTAGACTATC TTAAACACAA TATATTTTCGT AATAAGAGCA AAAGTTTCAG TGAAAATCTT	17820
TCTAGTCTTA TTTCGTCTTA TATTGTAGAC AGCAAGTTGG CTAGTAAGTT CCAAGAAGAG	17880
GTTCAACAC TTATAAATCA AGAAATAGTA GTTCAAGCTT TTTTGAAGr TATTTGAAGG	17940
ACAGTCCAAT GATGAACACA AACCTGTGtT TTTCTGGTC TTTTtTAGTG TTTTGAAGGG	18000
TGGkATACTA ATCTCAAAGA TAACAATTAT ATCCAAAGGA GGCAACATAT GCCAAACGTC	18060
AAAGAAATTA CAAGAGAGTC ATGGATTTTA GCCACTTTC CAGAGTGGGG AACATGGTTG	18120
AACGAAGAAA TCGAAGAAGA AGTCGTACCT GAAGGCAACT TTGCCATGTG GTGGCTAGGC	18180
AACTGTGGTA CTTGGATTAA GACACCAGCT GGTGCTAACG TTGTCATGGA CCTTTGGTCA	18240
AACCGTGGAA AATCAACCAA AAAAGTGAAA GATATGGTTC GTGGGCACCA AATGGCAAAT	18300
ATGGCAGGTG TTCGTAAGCT GCAACCAAAC TTGCGTGTTC AGCCAATGGT TATCGATCCA	18360
TTTGCTATCA ACGAACTAGA CTATTACTTA GTTTCACACT TCCACAGTGA TCATATCGAC	18420
CCATACACAG CTGCAGCAAT TCTCAATAAT CCTAAGTTAG AGCATGTAA GTTGG	18475

(2) INFORMATION FOR SEQ ID NO: 39:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 7186 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: double
 - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 39:

CCAGGATTTG GTACCGTTGC AAGTGGTGTG CCTTTCCTCC TAAAGGAAAA TGGAGGAAAA	60
ATCAATCAAT CAGCACATTC AGATATCAAA GTTGCTAAGG TATTGGTCAA GGATGAAGAT	120
GAAAAAATC GCTTGCTTGC AGCAGGGAAT GACTTTAACT TTGTAACCAA TGTGGATGAT	180
ATTTTATCAG ACCAGGATAT TACTATCGTA GTGGAATTGA TGGGGCGTAT TGAGCCTGCT	240
AAAACCTTTA TCACTCGTGC CTTGGAAGCT GAAAAACACG TTGTTACTGC TAACAAGGAC	300
CTTTTAGCTG TCCATGGCGC AGAATTGCTA GAAATCGCTC AAGCTAACAA GGTAGCACTT	360
TACTACGAAG CAGCAGTTGC TGGTGGGATT CCAATTCTTC GTACTTTAGC AAATTCCTTG	420
GCTTCTGATA AAATTACGCG CGTGCTTGA GTAGTCAACG GAACTTCCAA CTTTCATGGT	480
ACCAAGATGG TGAAGAAGG CTGGTCTTAC GATGATGCTC TTGCGGAAGC ACAACGTCTA	540

386

GGATTTGCAG AAAGCGATCC GACGAATGAC GTAGATGGGA TTGATGCAGC CTACAAGATG	600
GTTATTTTGA GCCAATTTCG CTTGGGCATG AAGATTGCCT TTGATGATGT AGCCCACAAG	660
GGAAATCCGCA ATATCACACC AGAAGACGTA GCTGTAGCTC AAGAGCTTGG TTACGTAGTG	720
AAATTGGTTG GTTCTATTGA GGAAACTTCT TCAGGTATTG CTGCAGAAGT GACTCCAACC	780
TTCTTACCTA AAGCGCAGCC ACTTGCTAGT GTGAATGGCG TAATGAACGC TGTCTTTGTA	840
GAATCTATCG GTATTGGTGA GTCTATGTAC TACGACCAG GTGCGGGTCA AAAACCAACT	900
GCAACAAGTG TTGTAGCTGA TATTGTCCGT ATCGTTCGTC GTTTGAATGA TGGTACTATT	960
GGCAAAGACT TCAACGAATA TAGCCGTGAC TTGGTCTTGG CAAATCCTGA AGATGTCAAA	1020
GCAAACTACT ATTTCTCAAT CTTGGCTCTA GACTCAAAAG GTCAGGTCTT GAAGTTGGCT	1080
GAAATCTTCA ATGCTCAAGA TATTTCTTTT AAGCAAATCC TTCAAGATGG CAAAGAGGGT	1140
GACAAGGCGC GTGTCGTTAT CATCACACAC AAGATTAATA AAGCCAGCT TGAATATGTC	1200
TCAGCTGAAT TGAAGAAGGT TTCAGAATTC GACCTCTTGA ATACCTTCAA GGTGCTAGGA	1260
GAATAAGATG AAGATTATTG TACCTGCAAC CAGTGCCAAT ATCGGGCCAG GTTTTGACTC	1320
GGTCGGTGTA GCTGTAACCA AGTATCTTCA AATTGAGGTC TGCGAAGAAC GAGATGAGTG	1380
GCTGATTGAA CACCAGATTG GCAAATGGAT TCCACATGAC GAGCGTAATC TCTTGCTCAA	1440
AATCGCTTTG CAAATTGTAC CAGACTTGCA ACCAAGACGC TTGAAATGA CCAGTGATGT	1500
CCCTTTGGCG CGCGGTTTGG GTTCTTCCAG CTCGGTTATC GTTGCTGGGA TTGAACTAGC	1560
CAACCAACTG GGTCAACTCA ACTTATCAGA CCATGAAAAA TTGCAGTTAG CGACCAAGAT	1620
TGAAGGGCAT CCTGACAAATG TGGCTCCAGC CATTTATGGT AATCTCGTTA TTGCAAGTTC	1680
TGTTGAAGGG CAAGTCTCTG CTATCGTAGC AGACTTTCCA GAGTGTGATT TTCTAGCTTA	1740
CATTCCAAAC TATGAATTAC GTACTCGCGA CAGCCGTAGT GTCTTGCCTA AAAAAATTGTC	1800
TTATAAGGAA GCTGTTGCTG CAAGTTCTAT CGCCAATGTA GCGGTTGCTG CCTTGTTGGC	1860
AGGAGACATG GTGACCGCTG GGCAAGCAAT CGAGGGAGAC CTCTTCCATG AGCGCTATCG	1920
TCAGGACTTG GTAAGAGAAT TTGCGATGAT TAAGCAAGTG ACCAAAGAAA ATGGGGCCTA	1980
TGCAACCTAC CTTTCTGGTG CTGGGCCGAC AGTTATGGTT CTGGCTTCTC ATGACAAGAT	2040
GCCAACAAAT AAGGCAGAAT TGGAAAAGCA ACCTTTCAAA GGAAACTGC ATGACTTGAG	2100
AGTTGATACC CAAGGTGTCC GTGTAGAAGC AAAATAAAGA ATAGAAGATA GGATGGGGAA	2160
ACTCTTGACC AGAGGGGTTT ATATCCTTTT TGTGAAAAGA AGTTTATACT CAATGAAAAT	2220
CAAAGAGCAA ACTAGGAAGC TAGCCGCAGG CTGCTCAAAA CAGTGTTTGT AGGTTGCAGA	2280
TAGAACTGAC GAAGTCAGCT CAAGACACTG TTTTGAGGTT GCAGATAGAA CTGACGAAGT	2340

387

CAGTAACCAT	ACTACGGTAA	GGTGACGCTG	ACGTGGTTTG	AAGAGATTTT	CGAAGAGTAT	2400
TAGTTAAAAA	CGTGATAAAG	GAGAAATAAA	GATGGCAGAA	ATTTATCTAG	CAGGTGGTTG	2460
TTTTTGGGGC	CTAGAGGAAT	ATTTTTCACG	CATTTCTGGA	GTGCTAGAAA	CCAGTGTTGG	2520
CTACGCTAAT	GGTCAAGTCG	AAACGACCAA	TTACCAGTTG	CTCAAGGAAA	CAGACCATGC	2580
AGAAACGGTC	CAAGTGATTT	ACGATGAGAA	GGAAGTGTCA	CTCAGAGAGA	TTTTACTTTA	2640
TTATTTCCGA	GTTATCGATC	CTCTATCTAT	CAATCAACAA	GGGAATGACC	GTGGTCGCCA	2700
ATATCGAACT	GGGATTTATT	ATCAGGATGA	AGCAGATTTG	CCAGCTATCT	ACACAGTGGT	2760
GCAGGAGCAG	GAACGCATGC	TGGGTCGAAA	GATTGCAGTA	GAAGTGGAGC	AATTACGCCA	2820
CTACATCTCG	GCTGAAGACT	ACCACCAAGA	CTATCTCAGG	AAGAATCCTT	CAGGTACTTG	2880
TCATATCGAT	GTGACCGATG	CTGATAAGCC	ATTGATTGAT	GCAGCAAACT	ATGAAAAGCC	2940
TAGTCAAGAG	GTGTTGAAGG	CCAGTCTATC	TGAAGAGTCT	TATCGTGTCA	CACAAGAAGC	3000
TGCTACAGAG	GCTCCATTTA	CCAATGCCTA	TGACCAAACC	TTTGAAGAGG	GGATTTATGT	3060
AGATATTACG	ACAGGTGAGC	CACCTTTTTT	TGCCAAGGAT	AAGTTTGCTT	CAGGTTGTGG	3120
TTGGCCAAGT	TTTAGCCGTC	CGATTTCCAA	AGAGTTGATT	CATTATTACA	AGGATCTGAG	3180
CCATGGAATG	GAGCGAATTG	AAGTTCGTTC	TCGTTTCAGG	AGTGCTCACT	TGGGTCATGT	3240
TTTCACAGAT	GGACCGCGGG	AGTTAGGCGG	CCTCCGTTAC	TGTATCAATT	CTGCTTCTTT	3300
ACGCTTTGTG	GCCAAGGATG	AGATGGAAAA	AGCAGGATAT	GGCTATCTAT	TGCCTTACTT	3360
AAACAAATAA	AACAGAGAGT	GGGGCTTCCC	ACTTTCTTCA	TTTCTAGAAT	ATGAATAGAA	3420
GGGATTTATG	AAACACCTAT	TATCTTACTT	CAAACCCTAC	ATCAAGGAAT	CAATTTTAGC	3480
CCCCTTGTTT	AAGCTGTTAG	AAGCTGTTTT	TGAGCTCTTG	GTTCCCATGG	TGATTGCTGG	3540
GATTGTTGAC	CAATCTTTAC	CTCAGGGAGA	TCAAGGTCAT	CTCTGGATGC	AGATTGGCCT	3600
GCTCCTTATC	TTTGACAGTA	TTGGCGTTTT	AGTGGCCTTG	ATAGCTCAAT	TTTACTCAGC	3660
AAAGGCAGCA	GTAGGTTCTG	CTAAGGAATT	GACAAACGAT	CTTTATCGTC	ATATTCTTTC	3720
CTTGCCCAAG	GACAGCAGAG	ACCGTCTGAC	AACCTCTAGT	TTGGTCACTC	GCTTGACTTC	3780
GGATACCTAC	CAGATTCAGA	CTGGTATCAA	TCAATTCCTG	CGTCTCTTTT	TACGAGCGCC	3840
CATTATCGTT	TTTGGTGCCA	TTTTTATGGC	TTATCGAATC	TCAGCTGAGT	TGACTTTCTG	3900
GTTCTTAGTC	TTGGTTGCCA	TTTTGACCAT	TGTCATTGTA	GGGTTATCTC	GATTGGTCAA	3960
TCCTTTCTAC	AGTAGTCTCA	GAAAGAAAAC	GGACCAACTG	GTTTCAGGAAA	CGCGCCAGCA	4020
ATTGCAAGGG	ATGCGGGTTA	TTCGTGCTTT	TGGTCAAGAA	AAACGAGAGT	TACAGATTTT	4080

388

TCAAACCCCTT AACCAAGTTT ATGCTAGATT ACAAGAAAAG ACAGGTTTCT GGTCTAGTTT	4140
ATTAACACCT CTGACCTATC TGATTGTCAA TGGAACTCTT CTCGTTATTA TCTGGCAAGG	4200
CTATATTTCA ATTCAAGGAG GAGTGCTCAG TCAAGGTGCT CTCATTGCTC TTATCAATTA	4260
CCTCTTACAG ATTTTGGTGG AATTGGTCAA GCTAGCCATG TTGATCAATT CCTCAACCA	4320
GTCTATATC TCAGTCAAGC GAATCGAGGA AGTCTTTGTT GAGGCTCCAG AGGATATCCA	4380
TTCAGAGTTA GAACAAAAGC AAGCTACCAG AGATAAGGTT TTACAAGTCC AAGAATTGAC	4440
CTTTACCTAT CCTGATGCGG CCCAGCCTTC TCTGAGATAC ATTCCTTTG ATATGACTCA	4500
AGGACAAATT CTAGGTATCA TCGGGGAAC TGGTCTGGT AAATCAAGCT TGGTGAACCT	4560
CTTACTTGGG CTTTATCCAG TAGACAAGGG GAACATTGAC CTTTATCAAA ATGGACGTAG	4620
TCCTCTTAAT TTGGAGCAGT GGCGGTCTTG GATTGCCTAT GTACCTCAAA AGGTCGAACT	4680
CTTTAAAGGA ACCATTCTGT CCAACTTGAC TCTAGGTTTC AATCAAGAAG TATCTGACCA	4740
GGAAGTCTGG CAGGCCTTGG AGATTGCGCA AGCTAAGGAT TTTGTCAAGT AAAAGGAAGG	4800
ACTCTTGGAT GCTCTAGTTG AGGCAGGGG GCGAAATTC TCAGGTGGAC AAAACAAAAG	4860
ATTGTCATC GCCCGAGCAG TCTTGCCTCA GGCTCCGTTT CTCATCCTAG ATGATGCAAC	4920
CTCGGCACTG GATACCATTA CAGAGTCCAA GCTCTTGAAA GCTATTAGAG AAAATTTTCC	4980
AAACACGAGC TTAATTTTGA TCTCTCAACG AACCTCAACT TTACAGATGG CGGACCAGAT	5040
TCTCTCTTG GAAAAAGTG AGTTGCTAGC TGTGGCAAG CACGATGACT TGATGAAATC	5100
CAGCCAAGTC TATTGTGAAA TCAATGCATC CCAACATGGA AAGGAGGACT AGAATGAAAC	5160
GACAAATGT AAACCAGACG CTCAAACGTT TAGCCGTAGA TTTAGCAAGC CATCCTTTCC	5220
TCCTTTTCCT AGCCTTTCTA GGAAGTATTG CCAAGTTGG CTTATCAATT TACCTACCTA	5280
TTCTGATTGG GCAGGTCATT GACCAAGTCC TAGTGGCTGG TTCATCACCA GTTTTPTGGC	5340
AGATTTTCTC CCAGATGCTC TTGGTGGTAA TAGGAAATAC TCTGGTACAA TGGGCCAATC	5400
CTCTCCTCTA TAATCGTCTA ATCTTCTCTT ATACCAGAGA TTTACGGGAG CGAATCATCC	5460
ATAAGCTCCA TCGTTTACCG ATTGCTTTTG TAGATAGGCA AGGTAGTGGA GAGATGGTTA	5520
GTCTGTAAAC CACGGACATC GAACAGTTGG CAGCTGGCTT GACCATGATT TTAAACCAAT	5580
TTTTCAATTG TGTTTTGATG ATTTTGGTCA GTATTCTAGC CATGCTCCAA ATTCATCTCC	5640
TCATGACTCT CTTAGTCTTG CTGTTGACGC CACTGTCCAT GGTGATTTCG CGCTTTATTG	5700
CCAAGAAATC CTATCATCTC TTCCAGAAGC AAACAGAGAC GAGGGGAATT CAGACTCAGT	5760
TGATTGAAGA ATCGCTTAGT CAGCAGACTA TAATCCAGTC CTTCAATGCT CAAACAGAAT	5820
TTATCCAAAG ATTGCGTGAG GCTCATGACA ACTACTCAGG CTATTCTCAG TCAGCCATCT	5880

389

TTTATTTCTTC AACGGTCAAT CCTTCGACTC GCTTTGTAAA TGCACTCATT TATGCCCTTT 5940
 TAGCTGGACT AGGAGCTTAT CGTATCATGA TGGGTTGAGC CTTGACCGTC GGTCGTTTAG 6000
 TGACTTTTTT GAACTATGTT CAGCAATACA CCAAGCCCTT TAACGATATT TCTTCAGTGC 6060
 TAGCTGAGTT GCAAAGTGCT CTGGCTTGCG TAGAGCGTAT CTATGGAGTC TTAGATAGCC 6120
 CTGAAGTGGC TGAACAGGT AAGGAAGTCT TGACGACCAG TGACCAAGTT AAGGGAGCTA 6180
 TTTCCCTTAA ACATGTCTCT TTTGGCTACC ATCCTGAAAA AATTTTGATT AAGGACTTGT 6240
 CTATCGATAT TCCAGCTGGT AGTAAGGTAG CCATCGTTGG TCCGACAGGT GCTGGAAAAT 6300
 CAACTCTTAT CAATCTCCTT ATGCGTTTTT ATCCCATTAG CTCGGGAGAT ATCTTGCTGG 6360
 ATGGGCAATC CATTATGAT TATACACGAG TATCATGAG ACAGCAGTTT GGTATGGTGC 6420
 TTCAAGAAAC CTGGCTCACA CAAGGGACCA TTCATGATAA TATTGCCTTT GGCAATCCTG 6480
 AAGCCAGTCG AGAGCAAGTA ATTGCTGCTG CCAAAGCAGC TAATGCAGAC TTTTTCATCC 6540
 AACAGTTGCC ACAGGGATAC GATACCAAGT TGGAAAATGC TGGAGAATCT CTCTCTGTGC 6600
 GCCAAGCTCA GCTCTTGACC ATAGCCCGAG TCTTTCTGGC TATTCCAAAG ATTCTTATCT 6660
 TAGACGAGGC AACTTCTTCC ATTGATACAC GGACAGAAGT GCTGGTACAG GATGCCTTTG 6720
 CAAAACCTCAT GAAGGGCCGC ACAAGTTTCA TCATTGCTCA CCGTTTGTCA ACCATTGAGG 6780
 ATGCGGATTT AATTCTTGTC TTAGTAGATG GTGATATTGT TGAATATGGT AACCATCAAG 6840
 AACTCATGGA TAGAAAGGGT AAGTATTACC AAATGCAAAA AGCTGCGGCT TTTAGTTCTG 6900
 AATAAGCCAT TCTCTTTTGA AAGTTTATGG ACGAAAAAAG TTGCCTTCGA GTGACTTTTT 6960
 TGTTACAATA GCTAGAAAAA TTGTTCACTG TAATACTCAA TGAAAATCAA AGAGCAAACCT 7020
 AGGAAGCTAG CCGTAGGTTG CTCAAAGCAC AGCTTTGAGG TTGTAGATAA GACTGACGAA 7080
 GTCAGTTCAA AACACTGTTT TGAGGTTGCA GATAGAACTG ACGAAGTCAG CTCAAAACAC 7140
 TGTTTTGAGG TTGCAGATAG AACTGACGAA GTCAGCTCAA AACAGG 7186

(2) INFORMATION FOR SEQ ID NO: 40:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 14273 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: double
 - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 40:

CTGAAAATTC TAAAAAATTT ATAAGTAAGG AATTAATTAG TTATTTTGTG GATAAAGTTT 60

390

ATGATGAAAT ATTTGTTGAA GAGGTAGTTC CGCACGTTTT TCTGCCATAT GAATCTGACT	120
TACTTCTTAT TTTACCAGCT ACGGCAAATG TCATTGGCAA AATTGCTAAT GGTATTGCTG	180
ATGATTTAGT TACAGCAACT GTTTTAACT TTAATAAAAA AATAATTTTT TGTCCCAATA	240
TGAACTCTAC TATGTGGGAC AATCACATAG TTCAAAGAAA TGTATCAATT CTAAAGGAGT	300
TGGGACATAT ATTTTATTTT GAGTCTAAAA AAACATATGA GGTAGGATTG CGTAAAGCAA	360
TAGATTCAAC ATGTTCAATG TTACAACCAC AGTCGTTAGT AAAAGAACTT ATCAAATTAG	420
AAAATATTGT CCTTGAAGAG GGACATTAAA AACTACTGAG AATATTAATG AGGGGAAAAA	480
ATGGAAAATT CATCAATCGA TGTAGATATG CTGTTGGAAG AATTGACACA AGAAGCAATG	540
GTCGTTGTTG CTGTTGATAA GGACTGTTAA TTTAACTTA TGGCAATATA TGAAAGGTTA	600
CTGGATGTTT TAAATTATGC AGGCAGTAGC CTTTATTAT ATACAAATGG ATAAAGTAAG	660
GATAATACAA TGATTAAATA AAAAAACAA CAAGTTGTTT TGGAAATCAT ACAGAAATTTT	720
TTGAATGGGA ACTTCATTTT GCCTTGTTGA GTCTATGATT TTGGCTTGCT GGAAACTGTA	780
CTTGATGAAT TTA AAAATCA AATTCCTGTA ACATTCAATT ACCAACTTTT TTATGCCGTT	840
AAAGCAAATT CAAATGAGAA GATACTTGAA TTCTTAGTAG ATAAAATTGA TGGAGTTGAT	900
GTGGCGTCAT TATCTGAATT AGATGTGGCT AAAAAATTTT TCCCACCAAC TCAAATTTCT	960
GTTAATGGTC CCGCATTTTC TTATGAAACT TTATATAATC TGATTAAAAA ACAATATAAA	1020
GTTGATATTA ACTTTTGGGA ACATCTTCAA CAATTTTCCC CAAAAGAATC TGTGGAATA	1080
AGAGTAACGG AGCCAGATGA ACTTAATAAT CGTATGAGTC GATTTGGAAT AAATATTTGC	1140
AGTGATAATT GGACTAGTAA TTTACAAAAT CCTTAAATTA CACGACTGCA TTTTCATTTT	1200
GGAGAAAAAG ATGATAAATT TATTGTTAAG TTAGATAAAA TATTATTTAA GTTACAAGAA	1260
ATTAATAAAC TTAGAGAGGT TAGAGAAATA AATCTTGGAG GCGGTTTAT GAAATTATTT	1320
ATGGAAAATC GTTTGAAAGA ATTTTCTCTA TCACCTATGG AAATCTATAA AAAGTACGAT	1380
ATTGATAGTA CTGTGACTAC AATAATAGAA CCAGGTAGTG CAATTACTTC ATTTTCTGCC	1440
TATATGATTA CTAGCCCAGT TAATGTTAGT GAGGTGAATG AGCAGCAGGT TATCACGTTA	1500
GACACATCAA TATACACCAA TACATTATGG TTTGTTCCGC ATATTATTAC AACGTTAAAT	1560
TCAAGTAGTA AAGAGCGTTA TAGTACTATT CTCTATGGTA ATACCTGTTA TGAACATGAC	1620
AAGTATAAAA TGAAAGTTTC GCTTCCAAGG TTAACCTAAA ATAGCAGTAT AGTGTTTTTT	1680
CCTGTAGGAG CTTATATAAA AAGCAATCAT TCAAAATTAC ATCGTAATGA TTTTATGCGG	1740
GAGGTATATT TGTGGACAAA AAACCTTGACA TATTAGATAA AGTTAAGGAA TATTTAGGAA	1800
ATAAACTAC TCAAATCTG GATAATCAAT ATAAAGAATT TTTGAAACTT AATGATATAA	1860

391

GGCGAGCGTT TGGTATTTCA GAAAAAGTAT TAAACAATTC TTTTAATTTT ACGAGTAAAG	1920
AATTTAATGA TTTAATTAAT AACGAAAATT ATTTATTCGA ATATGCATGT AGAATTAGAG	1980
AGGAATGGAG AAAAAATGC TTAAATCATT CTTATCGTTT TCTATGCTCA CCTATAATTA	2040
CAGATGATTT TCTTAACACG AAGACATTGA GAAGTAGCCA AATTGAATAT AAATATGAGC	2100
GATATTTATC GAAAAGTTCG ATAGGCGATA GAGCGGTGA TGGCTTTGTT TCCTTCAATA	2160
CTTTAACAGC TAATGGTATG TCTGCTATTA AACTATGTCT TGAGATATTA AACTCTATTT	2220
TCTTCAAGAA GAAGATTGAT TTATTATATT CAACCGGATA TTATGAAACA AGATTTTAT	2280
TAAATAATCT TGCTAAATCA GGTATTAGTT GCTATGAGGT AAGTAAATTGT GAATTGGATA	2340
AAGATAAATT TTATAATGTA TTCATGATGG AACCCAAATCG AGCCGATTTA ACATTACAAA	2400
AAACTGATTT CAAGATAGTA GAATATTTTG TTAAGTATAA AAATAATTCA ATAAAAGTCG	2460
TTATTTTAGA TATTTTATAT CAAGGTTCTA ATTTTAAATT AGTAGAATTT TTAGAGAAAT	2520
TTAAATTTGC GAATGTAATT ATTTTGTGG TACGATCTTT GATAAAATTA GATCAAATGG	2580
GATTAGAATT GACAAATGGG GGAATAATAG AAGTGTTTAT TCCTAATCAT TTGAGAAAGT	2640
TGAAAAATTT TATTGAAGAG GAATTCAATA AATTTAGAAA TTCTCACGGA GCTAATCTAA	2700
GCCTCTATGA ATACTGTTTG CTTGATAATT CTTTAACTTT AAAAAATGAT TGGAACATTT	2760
CTGATTTAGT TATGAAATTT ACGAGTAATT TTTATGCTGA TATAAAAGAC TTGTTTATCG	2820
AAAATTTCTGA TATTGAAATC ATCCATGAAG AGGGAGTACC TTTTGTATTT TTAGATTTAA	2880
TAGGTGAAGG TAAAAAGAA TATGAAATGT TTTTCAATG GTTAAACTTC TTTTACAAAC	2940
AGCTTGAAT CACATTGTAT GCTAGAAATA GTTTTGGGTT TCGGAATCTA ACAGTAGAGT	3000
ATTTTGAAT TATTGGGACA GAAAGATATA TATTTAAGAT TTGTCCAGGT GTTTATAAAG	3060
GGTTAAGTTA TTATTTGATG AAATTTTAT TAAATCTTT TTCAAATGAA TATTTAAAAA	3120
CTACTGATGA GGTTAATAGA TGAAAAATTT GATAAAGTTG CTAATAATTA GATTGATTGT	3180
TAACTTAGCA GACAGTGTAT TTTATATAGT AGCATGTGG CACGTTAGCA ATAATTATTC	3240
TTTCGAGCATG TTCTTAGGAA TATTTATTGC AGTAAATTAT CTACCGGATT TGTTACTAAT	3300
CTTTTTTGA CCAGTTATTG ACAGAGTAAA TCCGCAAAAA ATTCTTATAA TATCAATTTT	3360
GGTTCAATTA GCAGTGGCTG TAATATTTTT ATTATTATTA AACCAAATAT CATTTGGGT	3420
GATAATCAGT CTAGTGTTA TTTCAGTAAT GGCTAGCTCC ATAAGTTACG TGATAGAAGA	3480
TGTGTTGATT CCTCAAGTGG TAGAATATGA TAAGATTGTA TTTGCAAATT CTCTTTTTAG	3540
TATTTTCGTAT AAAGTATTAG ATTCTATTTT TAATTCATTC GCATCATTTT TACAGGTGGC	3600

392

AGTAGGATTT ATTTTATTGG TTAAGATAGA TATAGGCATA TTTTACTTG CTCTATTTAT	3660
ATTGTTGTTG TTAATAATTA GAACTAGCAA TGCGAATATA GAAACTTCT CTTTCAAATA	3720
TTACAAGAGA GAAGTGTGCG AAGGTACAAA GTTTATTTTA AATAATAAAT TATTATTTAA	3780
AACCAGTATT TCTTTAACGC TTATAAACTT TTTTATTCA TTTCAGACAG TAGTTGTACC	3840
GATTTTCTCT ATTCGATATT TTGATGGTCC GATTTTATAT GGTATTTTTT TAACTATTGC	3900
TGGTTTGGGT GGTATATTGG GAAATATGCT AGCGCCAATC GTAATAAAAT ATTTAAAATC	3960
GAATCAAATT GTTGGTGTAT TTCTTTTTTT GAACGGCTCA AGTTGGTTAG TAGCAATTGT	4020
TATAAAGAC TATACTTTAT CACTTATTTT ATTTTCGTT TGTTTTATGT CTAAAGGAGT	4080
CTTCAATATT ATTTTAAATT CGTTGTACCA ACAAATACCT CCACATCAAC TTCTGGTAG	4140
GGTAAATACT ACCATTGATT CTATTATTC TTTTGGAAATG CCAATTGGTA GTTTAGTTGC	4200
AGGAACGCTT ATTGATTTGA ATATTGAATT AGTGTTAATT GCTATTAGCA TACCTTATTT	4260
TTTGTCTTCT TATATTTTTT ATACGGATAA TGGATTGAAA GAATTTAGTA TATATTAGAA	4320
ATGTTTATGT TCATTCAAAA GCATAATGAC TATAACTGAA AAAGAAAAGT GATATCTTTA	4380
AGGTTGTTCT TCTTGGTGGT GAGATTCGTG AGACAACCCA AGCTTTTGTG CGAAAGATTA	4440
CCAATGCTTT GATGGATAGG ATGTACTTIA GCAAGATGTT TTTAGTGGTA ACGGTATCGT	4500
GGATGGACGT GTAATAACCT CTTCTTTTGA GGAGTATTTT ACTAAAAAC TAGCCTTGGA	4560
GCGTCCCCA GAAACGCACT TACTCATTTA CTCTTCAAAG ATTTGGGGAG AAGATTTTGC	4620
TTCATCTGTT CCTTGAAAA AGTCACAGCA GTCATCACAG ACGATAGTAC TGAACAAAAC	4680
TATGAAGAGT TAGAAATTTA TACGCAGGTG ATTGTATAAA GGATCTGGAA ATAGATAAGA	4740
ACTTGATTAG TATTGACCTA GGTGGTACAA ATATTAAGAT TACTGTTCTT TCAAATGACG	4800
GTGAGATTGA AACTTTGTGG AGTATTACAA CAGATACAAG TGAGAAAGGT TCTCAAATTA	4860
TATCGGACAT CATCAGTTCT ATTAAAAATA AATTGACCGA ACGGAATATT CCTGATAGCG	4920
ACCTTCTTGG AATCGGTATG GGAAGTTGCT CATCATACTT TCCTTGIAAA TCATAGGGGC	4980
TATAAACTCT CCGTCTACTT GTCCTGCAAC AATTGAAGTC TGCTCAAAAC GCCGTCCGCT	5040
AATCTTTTCA TAGACTTTCT CCCTTTTAGG AGCCTAGCTT TCTAGTTTGT TCTTTGATTT	5100
TTATTGAGTA TACCACTATT TTAATCCCTC TGGCAAGGGA CTTTGTCTAT GTGGAGGGAT	5160
TGGGCTCCTA TGTGGTGGAG CTTTCTGTT CTTTCTGAAA TATGGTATAA TAGCACTAAT	5220
CAATTCTAG GAAAATAGAT ACAGAAAGGG GCTGAAAGAT GTCTCATATT ATTGAATTGC	5280
CAGAGATGCT GGCAAACCAA ATCGCGGCTG GAGAGGTCAT TGAACGTCTT GCCAGTGTGG	5340
TCAAAGAGTT GGTAGAAAAT GCCATTGACG CGGGCTCTAG TCAGATTATC ATTGAGATTG	5400

393

AGGAAGCTGG TCTCAAGAAG GTTCAAATCA CGGATAACGG TCATGGAATT GCCCAGCATG	5460
AGGTGGAGTT GGGCCTGCGT CGCCATGCGA CCAGTAAGAT AAAAAATCAA GCAGATCTCT	5520
TTCGGATTTC GACGCTTGGT TTTCGTGGTG AAGCCTTGCC TTCTATTGCG TCTGTTAGTG	5580
TCTTGACTCT GTTAACGGCG GTGGATGGTG CTAGTCATGG AACCAAGTTA GTCGCGCGTG	5640
GGGGTGAAGT TGAGGAAGTC ATCCCAGCGA CTAGTCCTGT GGAACCAAG GTTGTGTGG	5700
AGGATCTCTT TTTCAACACG CCTGCCCCGC TCAAGTATAT GAAGAGCCAG CAAGCGGAGT	5760
TGTCTCATAT CATTGATATT GTCAACCGTC TGGGCTTGGC CCATCCTGAG ATTTCTTTTA	5820
GCTTGATTAG TGATGGCAAG GAAATGACGC GGACAGCAGG GACTGGTCAA TTGCGCCAAG	5880
CAATCGCAGG GATTTACGGT TTGGTCAGTG CCAAGAAGAT GATTGAAATT GAGAACTCTG	5940
ACCTAGATTT CGAAATTTCA GGTTTTGTGT CCTGCGCTGA GTTGACTCGG GCTAACCGCA	6000
ATTATATCAG CCTCTTCATC AATGGCCGTT ATATTAAGAA CTTCTGCTC AATCGTGCTA	6060
TTTTGGATGG TTTTGAAGC AAGCTTATGG TTGGACGTTT TCCACTGGCT GTCATTACA	6120
TCCATATCGA CCTTATCTA GCGGATGTCA ATGTGCATCC AACTAAGCAA GAGGTGCGGA	6180
TTTCCAAGGA AAAAGAACTG ATGACTCTGG TTTCAGAAGC TATTGCAAAT AGTCTCAAGG	6240
AACAAACCTT GATTCCAGAT GCCTTGGAAT ATCTTGCCAA ATCGACCGTG CGCAATCGTG	6300
AGAAGGTGGA GCAAATATT CTCCCACTCA AAGAAATAC GCTCTACTAT GAGAAACTG	6360
AGCCGTCAAG ACCTAGTCAA ACTGAAGTAG CTGATTATCA GGTAGAATTG ACTGATGAAG	6420
GGCAGGATTT GACCCTGTTT GCCAAGGAAA CCTTGACCG ATTGACCAAG CCAGCAAAAC	6480
TGCATTTTGC AGAGAGAAAG CCTGCTAACT ACGACCAGCT AGACCATCCA GACTTAGATC	6540
TTGCTAGCAT CGATAAGGCT TATGACAAAC TGGAGCGAGA AGAAGCATCC AGCTTCCAG	6600
AGTTGGAGTT TTTCGGACAA ATGCACGGGA CTTATCTCTT TGCCCAAGGG CGAGATGGAC	6660
TTTACATCAT AGATCAGCAC GCTGCTCAGG AACGGGTCAA GTACGAGGAG TACCGTGAAA	6720
GCATTGGCAA TGTTGACCAA AGCCAGCAGC AACTCCTAGT GCCCTATATC TTTGAAATTC	6780
CTGCGGATGA TGCCCTGCGT CTCAAGGAAA GAATCCCTCT CTTAGAGGAA GTGGGCGTCT	6840
TTCTAGCAGA GTACGAGAA AATCAATTTA TTCTACGTGA ACATCCTATT TGGATGGCAG	6900
AAGAAGAGAT TGAATCAGGC ATCTATGAGA TGTGCGACAT GCTCCTTTTG ACCAAGGAAG	6960
TTTCTATCAA GAAATACCGA GCAGAGCTGG CTATCATGAT GTCTTGCAAG CGATCTATCA	7020
AGGCCAATCA TCGTATTGAT GATCATTCAG CTAGACAACT CCTCTATCAG CTTTCTCAAT	7080
GTGACAATCC CTATAACTGT CCTCACGGAC GTCCTGTTTT GGTGCATTTT ACCAAGTCGG	7140

394

ATATGGAAAA GATGTTCCGA CGTATTCAGG AAAATCACAC CAGTCTCCGT GAGTTGGGGA	7200
AATATTAAAA GTATAAAAA GTCTGGGAAA AATTTTCAAA ATCAAAAAA CGCATAAAAAT	7260
CAGGTGTTCA AAAACCTTGA TTTTATGCGT TTTATCATGG AAATAGTTAC TTCATTTTTT	7320
CCTAATTCTT TTCGAAACTC TTTTAAACG ACGTCAGTTT TATCAGTAAT CTCAAAACAG	7380
TGTTTTGAGC TAATTTTGCC AGTTTGTCT GTAACATCGA AGTTGTGTTT TACCACTCTG	7440
CGACTGGTTT CCTAGTTTGC TCTATGATTT TCACAGAGCA TTAAATTGCG ATTTTGCCAA	7500
GTTTCTTTAT TCGTCTAAAA GTAGAGTCTG TTCTATGCGT CTAATGTACG AATCAGGTTG	7560
ACCATTTCAA TAGCTCCTTG TGCACACTCA GAACCCTTAT TTCCTGCTTT AGTACCAGCT	7620
CGTTCTATGG CTGTTC AAT TGTATCTGTC GTTAGCACAC CAAACATAAC AGGAATTTG	7680
CTATTTAAAC TGATTTGGGC GATTCCCTTA GATACCTCGC TACATACATA ATCATAATGA	7740
CTTGATTTCC CTCTAATGAC AGCTCCCAAG CAGATAATTG CATCATATTT TTTACTTTTT	7800
GCCATTTTTG ATGCAATCAG TGGTATTTCA AAAGCTCCTG GAACCCAGGC TACCTCTATA	7860
TCTTTCTCGT TTACATTTCTC TCTTTTGAGA TTATCTAGTG CTCCAGATAA TAATTTTGAA	7920
GTTATAAATT CATTAATCT CGCTACAACA ATACCTATTT TAATATTGTT TGCTACTAAA	7980
TTACCTTCAT AAGGTTCAT TTATTTTTCC TCCATATTTA AAATGTGACC CATTCGATTT	8040
TTCTTTGTTT CTAAATAAAA ACTATCGTAA GGATTGGCTT CTATTTGAT TGATATTCTA	8100
CTGGAAATGG TAATTCATA TTTTCTAAC TGTTCAACCT TGTCAGGATT ATTTGTCAGT	8160
AAATGAAGTG ACTGAAGTCC CAGATCTTTA AGCATTTTTG CTCCAATATG ATATTCTCTT	8220
AAATCACCTT CAAAGCTTAA TGCAAGATTG GCATCAAGCG TATCCATGCC TTGATCTTGT	8280
AAATGATAGG CTTTAAATTT ATTGATAAGT CCAATTCCTC GTCCCTCCTG TCGCAAGTAA	8340
AGTAAGACAC CCGAACCATT CTCAACAATC ATTTTCATAG CTTATTCGAA TTGCTGTCCA	8400
CAATCGCAAC GTAAAGAGCC TAAAACATCT CCTGTTAAAC ATTCGGAGTG GACCCGACAT	8460
AATACATTGG CTTCATCCTC TATATTTCCC ATAATAAGAG CAAGATGATG TTCCCCATTT	8520
AGTTTATCTA TATAGCTAAT TGCTTTGAAA TTACCGTATC TAGTAGGCAT ATTGACAGTT	8580
GAAACTCGTT CTACCAGCTG ATCATATACT TTCTATATT CTGTGAATTC TTTGATGGTA	8640
ATTAGTGGA TGTGTGTTT TTTGAGAAC TGAATTAAAT CATCTGTTCT CATCATTTTG	8700
CCATCATGAT TCATTATTTT ACAACATAGG CCACACTCTT TTAGTCCAGC TAATTTTAAT	8760
AAATCAACAG TTGCTTCTGT GTGTCCATTT CTTTCTAGGA CACCACCTTT TTTTGCAATT	8820
AAAGGAAACA TGTGTCCTGG CCTGCGAAAA TCAGAGGGTG TTATATCTTC AGCTACACAC	8880
ATACGTGCGG TCAGTCCTCT TTCCTCGGCA GAAATACCTG TGGTCGTTTC TTTATAATCA	8940

395

ATTGAACTG TAAAAGCACT CTTATGATTA TCTGTATTGT TTTCAACCAT AGGTGAAAGC	9000
ATTAATTGAT TAGCTAAACT TTCGCTCATA GGCATACAAA TTAATCCTTT GGCATAAGTA	9060
GCCATAAAAT TAACATTTTC TGTGTAGCT GCTTGTGCAG AACAAATTAA GTCTCCTTCA	9120
TTTTCTCTAT CCTTGTGTC TATAACAAGA ACAAGTCGTC CCTTCTGCAA TGCTTCTAAT	9180
GCTTCTTGTA TTTTTCGATA TTCCATTGAC TGATTATCCT TTCTGCTAAA ATCCATTTTG	9240
ATATAATAGT TCCTTAGATA TTTCTGATTT TGGAGAGTTA TCCATCAGTT TTTGCACATA	9300
TTTACCTAAG ATATCATTTT CAAGATTAC TGTACTCCCG ACTTGTTTAC TCTTAAGAAT	9360
GGTTTGTTC AAGGTATGAG GGATAACAGA TACTGAAAAG TTTACTTTTG AGACTTTAGC	9420
GACAGTCAGA CTAATGCCGT CAATTGTAAT AGATCCTTTT TCAACTATTA AATCTAAAA	9480
TTCTTTTGT GTGTTGATTT GATACCATAC AGCATATCA TCTTTTTTTA TTGACGAGAT	9540
TTTTCCTGTA CCATCAATGT GTCCTGTAAC GACGTGACCC CCAAGTCGAC CGTTGACAGA	9600
TAAGGCTCTT TCTAGATTCA CCTCACTTCC ATGTTTAAAT AGAGTAAGAG CTGTTGACT	9660
CCATGTTTCA TTCATTACAT CAACTGTAAA GGATTGATGA TTGAAATGAG TAACTGTAAG	9720
ACAGATACCA TTTACTGCTA TACTATCGCC TAAATGGATA TCCGTTAATA TTTTGAGGC	9780
TTTAATTGAT AGTTTACAA TACGAGAGTC TTTCTGTATT CTTTCAACTT TTCCGATTTT	9840
TTCAATTATT CCTGTGAACA TGGATAAATC ACTTCACTTT CTATGAGATA GTCATTTCTT	9900
ATTTGAGAAA ATGCATAAGG TTTCAATCTA ATAGCGTCAT TTGGCAAAGA AATACCTTCA	9960
CCTCCGACAG GAAACTTGGC ACTACCTCCA AAAACTTTTG GTGCAATATA TATTTTCAGC	10020
TCATCAACAA TTTGTTGTTC CAAAGCACTC CAATTCATTA GACTGCCCCC TTCTAGAACT	10080
AGGCTATCAA TCTGCATGTT TCCTAGATGT TGCATTAAAC TCGATAAGTC TATATGATTG	10140
CCTTTTCTT TATGGAAAG TATTTACAG CCATGATTTT GATATAGCTT CATTTTATTT	10200
TTGTCTTCAG AGGAAGTGGC AATGTAAGTT TTAATATCAT TTGCTGTTT TACGATTTTA	10260
GAGGTAAGAG GAGTTCGTAA ATGTGTATCG CATATGATAC GGATAGGATT TTTCCCTTCC	10320
TCCAATCTAC ATGTCAGCAA AGGATCGTCT TGAATAACAG TATTGACTCC CACCATAATT	10380
GCACTAACAT GGTGTCGTAA CTGATGCACA TGCTTTCTTG CTCTTCTTC AGTAATCCAT	10440
TTGATTGAT TTGTTTGTAGT GGCTATTTT CCATCCATTG ACATTGCATA TTTCATAAAA	10500
ACATAGGGTA CATGCTGGGT AATATACTTT CTAAAACTTT TTATTAAGTT AAGACACTCA	10560
TTTTCTAAAA TTCCAACAGT AACTTGAAGA TTATTTTCCT CAAGTATCTT TACTCCTTTT	10620
CCAGATACAA TAGGATTACA GTCTAGGCTT CCAATGACTA CTCTTGTAAT ACCACTATCG	10680

396

ATTATAGCAT CTATACAGGG AGGTGTTTTC CCGAAGTGAC AACAGGGTTC AAGTGTTACA	10740
TAAAGCGTCG CTCCGACAGG GGATTCTCTA CAGTTTTTAA GAGCATTTCT CTCAGCATGT	10800
GGGCCACCAA AAAACTCATG ATAACCTTGT CCGATAATGT GATTATCTTT TACAATAACT	10860
GCGCCGACCA TAGGATTGGG ATTGACGTAA CCAGCCCCCT TTTGTGCCAG TTTTATTGCT	10920
AATTCATAT ATTTTGAATC GCTCATCTCG CTACCTCCAA AAAAATATAC CTTGAATAGG	10980
GGACTACTCA AGGCATACAA AAGAAAACCT ATGCGATTAA CAAAATGCT CTGAAATGAC	11040
AAGTAATCAT TTCAGAGCAC GCAAAAAGCA CAAATATACT TTTATCTTCT TTCATCCAGA	11100
CTATACTGTC GGCTTTGGAA TTTCACCAAA TCATGCCTTT CGGCTCGTGG GCTATACCAC	11160
CGGTAGGGAA TTTCACCTG CCTGAAGAT AGTTATTCAA TTACAGATGA TTATAGTACT	11220
TAATTTTGAA TATGTCAACA GATAAATACC GATTGTTTTT GATATACTGT ATTTGTGATA	11280
ATCGATTCTC GCTCCTCGGA TAAAGAAAAT ATGATATACT AGATAAACGA AATAAGAGAG	11340
AAGGAATACT ATGTACGCAT ATTTAAAAGG AATCATTACC AAAATTACTG CCAAATACAT	11400
TGTTCTTGAA ACCAATGGTA TTGGTTATAT CCTGCATGTG GCCAATCCTT ATGCCTATTC	11460
AGGTGAGGTT AATCAGGAGG CTCAGATTTA TGTGCATCAG GTTGTGCGTG AGGACGCCCC	11520
TTTGCTTTAT GGATTTCGCT CAGAGGATGA GAAAAAGCTC TTTCTTAGTC TGATTTCGGT	11580
CTCTGGGATT GGTCTGTAT CAGCTCTTGC TATTATCGCT GCTGATGACA ATGCTGGCTT	11640
GGTCAAGCC ATTGAAACCA AGAACATCAC CTACTTGACC AAGTTCCTTA AAATTGGCAA	11700
GAAACAGCC CAGCAGATGG TGCTGGACTT GGAAGGCAAG GTAGTAGTTG CAGGAGATGA	11760
CCTTCCTGCC AAGGTCGCAG TGCAAGCAAG TGCTGAAAAC CAAGAATTGG AAGAAGCTAT	11820
GGAAGCCATG TTGGCTCTGG GCTACAAGGC AACAGAGCTC AAGAAAATCA AGAAATTCCT	11880
TGAAGGAACG ACAGATACAG CTGAGAACTA TATCAAGTCG GCCCTTAAAA TGTGGTCAA	11940
ATAGGAGCAG AGAATGACAA AACGTTGTTT GTGGGTCAAG ATGACCAACC CGCTCTACAT	12000
CGCCTATCAT GATCAGGAGT GGGGCCAGCC CCTCCATGAT GACCAAGTAT TGTTTGAGIT	12060
GTTGTGTATG GAAACCTATC AGGCAGGCCT GTCTTGGGAA ACGGTACTCA ACAAACGCCA	12120
AGCTTTCGGA GAAGTCTTTC ATAGCTATCA AATTCACTCA GTCGCAGAGA TGA CTGACAC	12180
TGAATTGGAA GCCATGCTGG AGAATCCAGC TATCATTCGA AATAGAGCCA AGCTTTTGC	12240
TACACGCGCT AACGCCAAG CCTTCTACA GTTACAGGCA GAGTACGGCT CTTTGTATGC	12300
CTATCTTTGG TCTTTTGTG AGGGGAAAAC TGTGTTAAAC GATGTTCTCTG ATTATCGCCA	12360
AGCGCCAGCT AAAACACCCT TATCTGAGAA ATTAGCCAAA GATCTCAAAA AACGAGGCTT	12420
CAAGTTCACA GGCCCACTCG CCGTATTGTC TTTTCTACAG GCTGCAGGGC TAGTTGATGA	12480

397

CCACGAGAAT GATTGTGAGT GGAAAGGTCT TAAATGATGT CTAACAAAA TAAGGAAATT	12540
CTGATTTTTC CGATTCTCTA TACAGTCCTC TTTATGTTTG ATGGCGTTAA ATTGCTGGCT	12600
TCTTTAATGC CATCTGCCAT TGCAAATTAT CTGTGTTATG TAGTTTTAGC TCTATATGGC	12660
TCCTTCTTGT TCAAGGATAG ATTGATCCAA CAATGGAAGG AGATTAGAAA GACTAAAAGA	12720
AAATTCTTCT TTGGAGTCTT AACAGGATGG CTCTTTCTCA TTCTGATGAC TGTGTCTTT	12780
GAATTTGTAT CAGAGATGTT GAAGCAGTTT GTGGGACTAG ATGGACAAGG TCTAAATCAG	12840
TCTAATATTC AAAGTACCTT TCAAGAACAA CCACTACTGA TAGCTGTTTT TGCTTGTGTC	12900
ATTGGACCTC TGGTAGAAGA ATTATTTTTC CGTCAGGTCT TATTGCATTA CTTGCAGGAA	12960
CGGTGTCTAG GTTTACTAAG CATTATTCTG GTAGGACTTG TTTTGTCTCT GACTCATATG	13020
CACAGTTTGG CTCTATCAGA GTGGATTGGT GCAGTTGGTT ACTTAGGTGG AGGCCTTGCC	13080
TTTTCATTTA TTTATGTGAA AGAAAAAGAG AATATCTACT ATCCCCTACT TGTCACATG	13140
TTAAGCAACA GCCTCTCCTT AATCATTTTA GCTATCAGTA TAGTAAAATG AAATGAGAAC	13200
AGGACAAATC GATTTCTAAC AATGTTTTAG AAGTAGAGGT GTACTATCTT AGTTTCAATA	13260
TACTGTAATA TGTGATGAAA ATGCCAGTAA TGATACCGAG AAAAAAGCTG AGAAACTTTT	13320
CCCAGCTTTA TTTGTTATAG TCAAAGAGAA TGACTTGTTT CTGTGCATCT ACATGAGCAT	13380
GGACCCCAAA GGGTACAATT GCTCTTGGAG TTGCGTGGCC GACATTCAGA TTATAGACAA	13440
TCGGGATATT GCTGTCAATG ATATCCAATA GTGCCTCTTT ATAGTCGTCA TGGAAAGTTT	13500
CATCCATAGG TTTTCCGACC AAGAGTCCAT TGATGACCGC GAATATGCCA GTGTCTTTTA	13560
AAGTTAGCAA CATCTTTTTC AAGTCTTCTG GCTTAGGCTT TTCTTCGCTT GTTTCGAGCA	13620
AGAGGATTTT CCCTTCCAG TCTGACAAGT CAGGGAAAAG TTGTATTTT TGGCAGAGTT	13680
CCGTGCTATC TGCATATCGA GAGTTGTCAA AGATATCGTA GAGGGATTCG AGGCAACCAC	13740
CGAGGATTTT CCCCTCGAAC TGGGCACTTC CTTGCAACAA GTCAAAACCT GTATTTGTAT	13800
GACTGACACG AGGTGTTCCC AGGGCCGTGG GACTAAAATC AGTTCGTTCC TCATACCAAA	13860
CGTCACTAGG GCGGATTTCT GAAATTCCTC CCGTCTCAAT CAATTCCTTA AAGTAGTGAA	13920
GGCTATAGGC TAGCATTTCT TTGTCTAATT CACAAATGTC TGCTAAAAAG GATGACCAT	13980
AAAAAGTCTT GATTCCTAAT TTATGCAACA TGAGGTGGTT CATGGTTGTA TCCGAGAAGC	14040
CAAGAAAAAT TTTTGTCTTG ATAACCTTTT GGAGTTGGTC ATTTTCAAAA AGATAAGGTA	14100
GCAAGCGATA GGTATCGTCT CCACCGATGG CACATAGGAT CATGTCGATG CTATCATCAG	14160
AAAAGGCATG AATCAAATCC TCTGCACGAG CTTCAGGATG GTCCTTGATA AAGTCTAATC	14220

398

CTTTTAACGA ATGGGGCAAA AAGATGGGAT TGGTCCCAGA TCCTTGAGAC GTT

14273

(2) INFORMATION FOR SEQ ID NO: 41:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 9828 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 41:

GTGAAGTGGC GCAAAAGGTG CAAGTGATGA GCTCAGGTTC TTTAGCTCTT GACATTGCCC	60
TTGGCTCAGG TGGTTATCCT AAGGGACGTA TCATCGAAAT CTATGGCCCA GAGTCATCTG	120
GTAAGACAAC GGTTGCCCTT CATGCAGTTG CACAAGCGCA AAAAGAAGGT GGGATTGCTG	180
CCTTTATCGA TGCGGAACAT GCCCTTGATC CAGCTTATGC TGCGGCCCTT GGTGTCAATA	240
TTGACGAATT GCTCTTGTCT CAACCAGACT CAGGAGAGCA AGGTCTTGAG ATGCGGGAA	300
AATTGATTGA CTCAGGTGCA GTTGATCTTG TCGTAGTCGA CTCAGTTGCT GCCCTTGTTC	360
CTCGTGC GGA AATTGATGGA GATATCGGAG ATAGCCATGT TGGTTTG CAG GCTCGTATGA	420
TGAGCCAGGC CATGCGTAAA CTTGGCGCCT CTATCAATAA AACCAAAACA ATTGCCATTT	480
TTATCAACCA ATTGCGTGAA AAAGTTGGAG TGATGTTTGG AAATCCAGAA ACAACACCGG	540
GCGGACGTGC TTTGAAATTC TATGCTTCAG TCCGCTTGA TGTTCGTGCT AATACACAAA	600
TTAAGGGAAC TGGTGACCAA AAAGAAACCA ATGTCGGTAA AGAACTAAG ATTAAGGTTG	660
TAAAAAATAA GGTAGCTCCA CCGTTTAAGG AAGCCGTAGT TGAAATTATG TACGGAGAAG	720
GAATTTCTAA GACTGGTGAG CTTTGAAGA TTGCAAGCGA TTTGGATATT ATCAAAAAAG	780
CAGGGGCTTG GTATTCTTAC AAAGATGAAA AAATTGGGCA AGGTTCCTGAG AATGCTAAGA	840
AATACTTGGC AGAGCACCCA GAAATCTTTG ATGAAATTGA TAAGCAAGTC CGTCTAAAT	900
TTGGCTTGAT TGATGGAGAA GAAGTTTCAG AACAAGATAC TGAAAACAAA AAAGATGAGC	960
CAAAGAAAAG AGAAGCAGTG AATGAAGAAG TTCCGCTTGA CTTAGGCGAT GAACTTGAAA	1020
TCGAAATGA AGAATAAGCT GTTAAAGCAG TCGAGAAATC CGCTACTTTT TCGATTTTTG	1080
ATTCAAGTTT TTAGATTATA TATAGTAGCT TGAAATAAGA TATGAACAAC TCTATTAGGA	1140
AAGTCAAATT AATTTCTAGA AATGTTTITAG CAGCTACAGC GTACTATTCC AACTCAACC	1200
AACTATAATA GATCGAAACT AGAATAGTAC ATATCTACTT CTAAAACATT GTTAAAAATC	1260
GATTTGACTT TCCTTATTTT ATTCCGCTAT ATATAGTTTG CTGTTTCTTG TCGCTCCTCT	1320
GGAAAGCTGA TATAATAGCT TTATGAATAA AAAACGAACA GTGGACCTGA TACATGGTCC	1380

399

GATTCTTCCC	TCGCTCTTAA	GCTTCACCTT	TCCAATTTTG	CTATCAAATA	TTTTTCAACA	1440
GCTCTATAAC	ACTGCTGATG	TCTTGATTGT	TGGACGATTT	CTTGGTCAAG	AATCCTTGGC	1500
TGCAGTAGGA	GCGACGACAG	CGATTTTTGA	CCTGATTGTA	GGTTTTACAC	TTGGTGTGG	1560
CAATGGCATG	GGGATTGTCA	TTGCTCGTTA	TTATGGGCCT	CGGAATTTCA	CTAAAATCAA	1620
GGAAGCAGTA	GCAGCCACCT	GGATTTTAGG	TGCTCTTTTG	AGCATTCTAG	TTATGTTGCT	1680
GGGCTTTCTT	GGCTTGATC	CTCTCTTGCA	ATACTTAGAT	ACTCCTGCAG	AAATTCCTCC	1740
TCAATCTTAT	CAATATATTT	CTATGATTGT	GACCTGTGTA	GGTGTGAGCT	TTGCTTATAA	1800
TCTTTTTGCA	GGCTTGTTGC	GGTCTATTGG	TGACAGTCTA	GCAGCCCTGG	GATTTCTGAT	1860
TTTCTCTGCC	TTGGTTAATG	TGGTCTGGA	TCTCTATTTT	ATTACGCAAT	TGCATCTGGG	1920
AGTTCAATCC	GCAGGACTTG	CTACCATTAT	TTCGCAAGGT	TTATCAGCGG	TTCTCTGCTT	1980
TTATTATATT	CGTAAAAGTG	TGCCAGAACT	CTTGCCACAG	TTTAAACATT	TCAAATGGGA	2040
CAAAAGCTTG	TACGCGGATC	TCTTGAGCA	AGGTTTGGCT	ATGGGCTTGA	TGAGTTCAAT	2100
TGTATCTATC	GGCAGTGTGA	TTTTACAGTT	TTCTGTAAAT	ACATTTGGTG	CAGTGATTAT	2160
TAGTGCCAG	ACGGCAGCTC	GACGCATTAT	GACCTTTGCC	CTTCTTCCTA	TGACCGCTAT	2220
TTCTGCATCA	ATGACGACCT	TTGCTTCTCA	GAATCTAGGA	GCTAAGCGAC	CTGACCGTAT	2280
TGTTCAAGGT	CTTCGAATCG	GCAGTCGTTT	AAGTATATCC	TGGGCAGTTT	TTGTTTGTAT	2340
TTTCTCTTTT	TTTGCCAGTC	CAGCTTTGGT	TTCTTCTTGG	GCTAGTTCTGA	CAGATGGTTA	2400
CTTGATAGAA	AATGGAAGTC	TCTATCTGCA	AATCAGTTCA	ACCTTTTATC	CCATTTTGAG	2460
CCTCTTGTTG	ATTTATCGCA	ATTGCTTGCA	GGGCTTGGGG	CAAAAGATCC	TTCTCTAGT	2520
TTCTAGCTTT	ATTGAACTAA	TCGGAAAAAT	CGTTTTTGTG	GTTTTGATTA	TTCTTGGGC	2580
AGGATATAAG	GGTGTATCC	TTTGTGAACC	TCTTATCTGG	GTTGCCATGA	CAGTTCAACT	2640
GTAATTCTCA	TTATTCCGTC	ATCCCTTGAT	AAAAGAAGGC	AAGGCAATCT	TGGCAACCAA	2700
AGTGCAATCC	TAGTTGGATT	TACTGAATAA	AATCCATTTC	CTCTAGTGAA	AATCGAAAAA	2760
ACTTGTGTTT	TCTTCTTTAG	TTTGGTGTGG	AAAATAGTTT	AACAGACTTT	TGACTTCTTT	2820
TATATGATAT	AATAAAGTAT	AGTATTTATG	AAAAGGACAT	ATAGAGACTG	TAAAAATATA	2880
CTTTTGAAAA	TCTTTTTAGT	CTGGGGTGT	ATTGTAGATA	GAATGCAGAC	CTTGTCAGTC	2940
CTATTTACAG	TGTCAAAATA	GTGCGTTTGG	AAGTTCTATC	TACAAGCCTA	ATCGTGAATA	3000
AGATTGTCTT	CTTTGTAAGG	TAGAAATAAA	GGAGTTTCTG	GTTCTGGATT	GTAAAAAATG	3060
AGTTGTTTTA	ATTGATAAGG	AGTAGAATAT	GGAAATTAAT	GTGAGTAAAT	TAAGAACAGA	3120

400

TTTGCCTCAA GTCGGCGTGC AACCATATAG GCAAGTACAC GCACACTCAA CTGGGAATCC	3180
GCATTCAACC GTACAGAATG AAGCGGATTA TCACTGGCGG AAAGACCCAG AATTAGGTTT	3240
TTTCTCGCAC ATTGTTGGGA ACGGTTGCAT CATGCAGGTA GGACCTGTTG ATAATGGTGC	3300
CTGGGACGTT GGGGGCGGTT GGAATGCTGA GACCTATGCA GCGGTTGAAC TGATTGAAAG	3360
CCATTCAACC AAAGAAGAGT TCATGACGGA CTACCGCCTT TATATCGAAC TCTTACGCAA	3420
TCTAGCAGAT GAAGCAGGTT TGCCGAAAAC GCTTGATACA GGGAGTTTAG CTGGAATTAA	3480
AACGCACGAG TATTGCACGA ATAACCAACC AAACAACCAC TCAGACCACG TTGACCCTTA	3540
TCCATATCTT GCTAAATGGG GCATTAGCCG TGAGCAGTTT AAGCATGATA TTGAGAACGG	3600
CTTGACGATT GAAACAGGCT GGCAGAAGAA TGACACTGGC TACTGGTACG TACATTGAGA	3660
CGGCTCTTAT CCAAAGACA AGTTTGAGAA AATCAATGGC ACTTGGTACT ACTTTGACAG	3720
TTCAGGCTAT ATGCTTGACG ACCGCTGGAG GAAGCACACA GACGGCAACT GGTACTGGTT	3780
CGACAACTCA GCGGAAATGG CTACAGGCTG GAAGAAAATC GCTGATAAGT GGTACTATTT	3840
CAACGAAGAA GGTGCCATGA AGACAGGCTG GGTCAAGTAC AAGGACACTT GGTACTACTT	3900
AGACGCTAAA GAAGGCGCCA TGGTATCAAA TGCCTTTATC CAGTCAGCGG ACGGAACAGG	3960
CTGGTACTAC CTCAAACCAG ACGGAACACT GGCAGACAAG CCAGAATTCA CAGTAGAGCC	4020
AGATGGCTTG ATTACAGTAA AATAATAATG GAATGTCTTT CAAATCAGAA CAGCGCATAT	4080
TATTAGGTCT TGAAGAGCT TAATAGTATG CGTTTCTTG TGGAGATATT TCCTTCAATT	4140
TTGCTACTAT ATTAAACAAA AATCAAAAAG CAACTAGAA AGTTATGCTC AAATAAAATC	4200
TAAATTTGAC AATGTAAACC GAGTCGGATA GCTTTAAGTA CTGTTTGTAG GTTGAAGATA	4260
CGATTTTGA TAGGAACTCA TCAATTTTAG ATTTTAAAGC AGCATCAATA AATTGCTTCC	4320
TTGTTTTGTC ATAATTTTTT TATTTAAAA ATTATGACma GAGTGTGCTA TTCTTTTAT	4380
GAGAGGTGTA TGAATATGAT AAATGTATGT GATAAATGTA TGTGATGTTG GAAAAAGAA	4440
AAAAGAACTT AGAATATCTT CAAATCTTAC TCAAGATAAG ATGCTGAGT ATTTGTCTTT	4500
GAATCAAAGC ATGATTGCCA AAATGGAAAA AGGTGAAAGG AATATCACGA ATGGATTAA	4560
GTAATAAAGC TTCAAATCTT AGAAAAAGT TGGGAGCTGA TGGTGAATCG CCGATAGATA	4620
TTTTTAAATT GGTACAAAAG ATAGAAAATT TGACGCTGGT ATTTTATGGA CTCGGAAAGA	4680
ATATTAGCGG AGTCTGTTAT AAAGGAACTC AGTTCAGTCT CATTGCAGTC AATTCAGACA	4740
TGCCATTAGG AAGGTAAAGA TTTCTTTAG CACATGGACT GTATCATCTT TATTATGATG	4800
AGGTGAAGAA GAGTTCAGTC AGTCTTATCT TGATTGGTGA AGGAGATGAA ACTGAAAGAA	4860
AAGCGGATCA GTTTGCTTCT TATTTTTTAA TTTTCCCATC TTCACTGTAT AGGATGGTTG	4920

401

AGGAAATCAG	AGAAAATGCC	AATAGAACTC	ATCTTGAAGT	AGAAGATATT	ATAAAAATTGG	4980
GTCAGTTTTA	TGGTATCAGT	CATAAAGCTA	TGTTATATAG	ATTGAGGAAT	GATGGATACC	5040
TTGATGCAGA	AGAAATTAAA	AATATGGATA	TTAGTGTTAT	AGAGACAGCT	TCAAGATTAG	5100
GCTATGATAC	AAGTTTATAT	CGTCCTTTGT	CAGAAAGTAA	AAAAGAAATG	GCATTAGGAT	5160
AATATATTAA	TTCAACTGAA	CAACTTTTAG	AAAATAACAG	AATTTTCGCA	GGGAAGTATG	5220
AGGAACTGTT	ACTAGATGCT	TTCAGATATG	ATATTGTATA	TGGGCTAGAT	GAAGAGGGGG	5280
GAGTTGTCGT	TTGACTAGTC	GTGTATTTAT	TGATGCAGAT	TGTATTTTCAG	TATTTTATATG	5340
GGTTGGCACT	GAACATCTTT	TAGAAAAGCT	CTATTTGGGT	AAAATTGTTA	TTCCACAAGA	5400
GGTGATGAT	GAAATCAATA	TACCTACAAT	TCCCATTTA	AAATCTAGGA	TAGATCAGTT	5460
GGTAGCTAAG	GGTTCAGCTG	AGATTGTGAG	CATAGACATT	GGAAGTGAAG	AATACGCATT	5520
ATATAGAGAT	TTAACAAGAA	ATCATGATAG	TAACAAGATT	ATTGGTAAGG	GAGAAGGGGC	5580
ATCTATTTCC	TTAGCGAAAA	AGCATAATGG	GATATTAGGA	AGTAATAACC	TAAGAGATGT	5640
TAAATCATAT	GTAGAAGAAT	TTTCTTTAGA	ATATATGACA	ACAGGAGATA	TACTGATTGA	5700
AGCGTTTAAA	GCGTAATTTA	TTACTGAATA	AGAGGGCAAT	CATATCTGGA	ATAATATGCT	5760
TAAAAGAGA	AGGAAAATTG	GTGCAAATTC	ATTTTCAGAC	TATCTTCGTG	GAAGTATTCA	5820
TCAAAATAGA	CAAAAATAAA	TTTGGATAAA	TCGAACTCAC	TATTCAGGAG	GCATATGAGC	5880
AATTCGAAAA	AGAAAAGTGT	CAAATTGAGC	CTATAGGAGT	AGAAGTGAAA	TAGTAAGTCC	5940
TGCATAGTGG	ATGAGAGAAA	AGTTCTCCTT	GAAGTTTTC	TGAACTATCA	GTCGCATGTC	6000
AAACCATATG	TAGGCTAATG	TGAGAGGGGA	TAGCGAGTAG	TTTTTGGTTA	TTTTATCAAA	6060
AAACTTATAT	TTTATTATAC	CGAATGATAA	AATATAATAA	AAATGATAGA	ATAAGGAAAA	6120
AACATGAATG	TCAAAAAGAT	AATGTCAATT	TTTCAATCCT	TTTATGTTGA	TGTCAGTATT	6180
GAGGAACTGA	CTTTGACTTT	ACCAATCAGT	TTTGTAATAA	GGTTTGAGTA	TACTCAAATG	6240
ACTTTTCATA	AGGAATCATT	TTTATTGATT	AAAGAAAAGA	GAAGGGGGAG	TTTGAGTTCA	6300
TTTGTTACTC	AGGCTCGCAC	TATGGGTGAA	AAAGCCAATA	TGGATGTTGT	TTTGGTGTTC	6360
TCGAAGTTAT	CAGACAGTGA	AAAAAAGCAA	TTACTTCAAG	CTAGAGTTCC	GTTTGTAGAC	6420
TTTAAGGGAA	ACCTCTTCTT	CCCTCCATTG	GGACTAGTAC	TCAATGCGAA	TCATACTGAA	6480
GTCCCTAAGG	AATTAACACC	TAGCGAACAA	TTAACGTGGA	TTGCCTTTTT	ATTGACAAAA	6540
GGTCAAAAA	TAGTAGATGT	TGATTGCTTT	TCACAAGTCA	CTGGACTTCC	AAACTCAACA	6600
ATTTATAGGT	GTTTGAGGAC	TTTTAAAGCT	TTATATTGGT	TAAACAAGCA	AAATAAGCTT	6660

402

TACACATATA CCGTGTCAAA GAAAGAATTA TTCTTAAAAAT CCGTGTCTAG TTTATTTAAT	6720
CCCATCAAAA AACCGATTTT ATTGCCAGAT GGCGATATAA AGCAGATAAA ATCTGTTTCT	6780
AACCTTCTAT ATGGTGGTGC TTATGCTTTG TCGCATTCAA CTTTTTTAGC TGAAACGGAT	6840
GAAAAATATTA GCTATGTCAT ATGGCAGAGA AAATTCAATC AGTTATCCTT GCCACTTTCT	6900
CAGCATGTTT TAAAAAGAAA GATGCTAGAG ATATGGAAAT ATCGTCCTTT TGTATCTGAG	6960
TTTTGGAATG ATTTTAAAAA TAATCATGAT AAACAATTTG TAGATCCGAT TTCTCTTTAT	7020
TTGACCTTAA AAGATGATGA TGACCCACGT ATAGAGGAAG AGAGTGAAGC ACTAGAAAAAT	7080
ATGATATTAC AGTATCTGGG AGAAGATGAT GCCAGCTAAT ACGAAAGTTA TTTTTCAGAA	7140
AATGTTTTCG GATTTTCAGA ACTATTATGT TCTGATGGG GGAAGTCTA CCTCTATCGT	7200
ATTGGATTTC CAAGGATTTA AAAGTCGCAC AACAAAAGAT TATGATATGG TCATCATTGA	7260
TGAAGTAAAA AATAAGGAAT TTTATACTAC CTTGAATCAT TTTTLAGAAT TGGGAGAGTA	7320
TCAAGGAAGT CAGAAAGATG AGAAAGCGCA GCTTTTTCGA TTTACAACAA CTAATCCTGA	7380
GTTTCCTTCT ATGATTGAAC TATTTAGTAT CTTACCAGAA TATCCATTAA AGAAGGACGG	7440
TCGAGAAATT CCCTTACATT TTGACCAAGA TGCTAGTTTA TCAGCCTTAT TATTGGATGA	7500
AGATTATTAT AATATATTGG TGCATGAAAA AGAAACCATT CAGGGGTATT CGGTATTGAG	7560
TAATGTGGT TTATACTCTT CGAAAACTC TTCAAACCAC GTCAGCTTCC ATCTACAACC	7620
TCAAAACAGT GTTTTGAGCA GCCTGCAGCT AGCTTCCTAG TTTGCTCTT GATTTTCATT	7680
GAGTATTAAT TATTTTAAAG GCTAAAGCTT GGCTGGATAT GAGGGAGCGC TCTGCCACAG	7740
GTGCTCAAGG TTAAAGTAAG TCCATTAAAA AGCATTGAA TGACCTTACC CGTTTGACAG	7800
CTTCCTTGCT AGGAGATGAA AAGTTATCGG CTATAACATC AAGTAGTGCG GTAAAAGCAG	7860
ACATGCACCG CTTTGTGATA GAATTAGAGC CTGTGAAGTC AACTATTCTT CAAAATAATG	7920
ACATTTCAAT GGATCAAAAT GAAATTTTGG AAATCTGAA AAATTTTCTC GATGGTTAAA	7980
ATAATTGTAG CGAGATGGCT ATATTGAATT CGTCTATATC TGGAAACTAG AAAAACTTC	8040
AATTTCAAGG AAAAAAGAG TCAATCTTCC CACAATCAA CGTATAGTAT CAAGGTTTTT	8100
CAAGACCTGA TATTATGCGT TTTTGTCTT TCAAACTTT TTGCCAGTC TTCGTTTTTA	8160
TCCTCTAGTC ACTTGATTG TTTTCAGTGG TTTTLAGTA TAGTAGAATG AAACGAGAAC	8220
AGGACAAAT GATCAGGACA GTCAAATCGA TTTCTAACA TGTTTTAGAA GCAGAAGTG	8280
ACTATTCTAG TTCAATCTA CTATAGTTAA ATCTGCGGTC AAGTCTACTG GTGAATCTAT	8340
GATTGTAATA CTCTTCCAAA ATCTCATCAA CCACGTCAGT CTGCTTGC AGTCTGTATC	8400
TTACTGACCA AGCTAGTGAT GGATTTAGAA TAGGTGATTT GGAGCGTCCT ATTAGCTAGG	8460

403

```

AAATGCTGCT CATAGTCCTT TGCTGAGGCT AGGGTGTTTC AACATTCAAC ACTCAACTGG      8520
TTGATCTAGT TGATAGGAAG GGAGTTACTA TAAAATACTC AGGCTTCCAT CATATTTTTT      8580
GAAACGATTG TGTAATCAAA ATGTACCAAT ATTGTAGTAT TGGTACAGAA GATGTTGTGA      8640
ATGGATAAAT ATATCATAAC TGCTATCTCA AAAAGATTTC ATATGTCTGT GCATATATAA      8700
TAGACTTCCT GCAAACTAG AATCCTAGTT CATGATTGAT AATACCAGCA ATCAAAATCA      8760
TTCGTAATCC AAAGCGTTTA CGATGATTTC GATAGGTTGT TGAAAACATT TTAACGTTT      8820
CTACTTTGGC AAAGATGTTT TCAACCTTGC TTCTCTCCTT AGATAGCGCA TGGTTATAGG      8880
CTTTATCTTC AGCTGTTAGC GGCTTGAGTT TGCTGGATTT ACGTGGAGTT TGTGCTTGAG      8940
GACATATCTT CATGAGCCCT TGATAACCAC TGTAGCCAA GATTTTACCA GCTTGTCGCA      9000
TATTCTTGCA ACTCATTTTG AACAACTTCA TATCATGACA ATAGTTCACA GTGATATCCA      9060
AAGAAACAAT TCTCCCTTGA CTTGTGACAA TCGCTTGAGC CTTCATAGCG TGAATTTCT      9120
TTTTACCAGA ATCATTCGCT AATTCTTTTT TTAGGGCGAT TGATTTTTAC TTCCGTCGCA      9180
TCAATCATTA CCGTGTCCTC AGAACTAAGA GGAGTTCTTG AAATCGTAAC ACCACTTTGA      9240
ACAAGAGTTA CTTCAACCCA TTGGCTCCGA CGGATTAAGT TGCTTTCGTG AATACCAAAA      9300
TCAGCCGCAA TTTCTTCATA AGTGCGGTAT TCTAGGCTTA ATTTAGGTTT TCGTCCACCT      9360
TTTGCGTGTT TAAGTTGATA AGCTGTTTTT AATACAGCTA ACATCTCTTT AAAAGTCCTG      9420
CGCTGAACAC CAACAAGACG CTTAAATCGT GTATCAGTTA ATTGTTTACT TGCTTCATAA      9480
TTTCGCAGGG AGTCTATTGA CTCTTTGGTA GGTGTCAATG TTTTTCAT CTATCCCGAG      9540
AATTATTTTC CCGCCATTG TATTTGCAAA TGCTGAGTAG GTTCCCAGA AAGACTCTGG      9600
AAGATTGTTT TTAGCTTTTT TGTATTCTAA ATCAACCCCT TCAAATTTTA AGTCCATATT      9660
TTTCCTTTAC ATCTGTTTTT TGTGGTTCTG GTATTTGTTT AAGTTGAGTG ATAATATAGC      9720
GAATTGAATT TCGAGAGTTT TTA CTCAGTT AATTCTTTT TTAACCCACT TTAATTGCTT      9780
TTTTAACACG GGTAAAAAA GAAATTAAAG TGGGTTAATT TTTCTTGA      9820

```

(2) INFORMATION FOR SEQ ID NO: 42:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 3369 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: double
 - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 42:

404

CCGCGAAAGA TATTTTGTGA CAAGAGTTTG GACGTGAGGT CCGTGGCTAT AATAAAGTAG	60
AAGTTGACGA GTTTTGTAGAC GATGTCATCA AGGACTATGA AACCTATGCT GCCTTGGTCA	120
AGTCACTTCG TCAGGAAATT GCGGATTTGA AGGAAGAAAT AACTCGTAAA CCGAAACCTT	180
CACCAGTTCA AGCAGAACCC CTTGAAGCGG CAATTACAAG TTCTATGACG AATTTTGATA	240
TTTTGAAACG CCTGAATAGA TTGGAAAAAG AAGTTTTTGG TAAACAAATT TTAGATAACT	300
CAGATTTTGA AGTAGTTATT TGAGATGTGC AATTTTGGGA TAATCGCGTG AGGAGAATTG	360
TTTCTCATGA GGAAAGTCCA TGCTAGCACA GGCTGTGATG CCTGTAGTGT TTGTGCTAGG	420
CGAAACCATA AGCCTAGGGA CGAGAAATCG TTACGGCAGT TGAAATGGCT AAGTCCTTGG	480
ATAGGCCAGA GTAGGCTTGA AAGTGCCACA GTGACGGAGT CTTTCTGGAA ACAGAGAGAG	540
TGGAACGCGG TAAACCCCTC AAGCTAGCAA CCCAAATTTT GGTCGGGGCA TGGAGTACGC	600
GGAAACGAAC GTAGTATTCT GACTGCTATC AGCTAGAGCT GTTAGTGGTA GACAGATGAT	660
TATCGAAGGA AGTGGTCTTA GTCACCTCTG GAACAAAACA TGGCTTATAG AAAATTGCAT	720
ATAGGTTGGG GCTGAGAAAT TTTCTCAACC TCATTTTGA AAGTGGACAT ATAGAAAGGT	780
CTTGCAAGAC TGAACATGA AAAAAGAATT TAATTTAATT GCAACTGTGG CAGCAGGGCT	840
TGAGGCTGTC GTTGGTCGTG AAGTGCAGGA GTTGGGCTAC GATTGTCAGG TTGAAAATGG	900
ACGTGTTCTG TTTCAAGGAG ACGTGAGAGC TATTATCGAA ACCAACCTTT GGCTTCGGGC	960
AGCAGATCGT ATCAAAATTA TCGTAGGAAC GTTCCCAGCT AAGACTTTTG AAGAGCTATT	1020
TCAGGGAGTT TTCGCTTTGG ATTGGGAAAA TTATTTACCA CTTGGAGCTC GGTTCCTGAT	1080
TTCAAAAGCT AAATGTGTTA AGTCCAAACT TCACAATGAG CCCAGTGTTT AGGCTATTTT	1140
TAAGAAAGCT GTTGTCAAGA AATGCAGAA AACTATGCT CGCCAGAGG GGGTTCCTCT	1200
GATGGAGAAAT GGCCAGAGT TTAAGATGA GGTCTCTATT CTCAAAGATG TGGCAACTGT	1260
CATGATTGAT ACGACCGGT CTAGCCTCTT TAAACGTGGT TATCGTACCG AAAAAGGTGG	1320
CGCTCCTATC AAGGAAAATA TGGCAGCAGC CATTTTACAA CTTTCTAACT GGTATCCAGA	1380
CAAGCCTTTG ATTGATCCGA CCTGTGGTTC GGGGACTTTC TGTATTGAGG CAGTTATGAT	1440
TGCTAGAAAG ATGGCGCCAG GTCTTCGTCG CTCTTTTGCA TTTGAGGAAT GGAAGTGGAT	1500
CAGCGATCGC TTGATTCAAG AAGTGCACAC AGAAGCGGCT AAAAAAGTAG ACCGTGAGCT	1560
TGAGCTGGAT ATCATGGGCT GTGATATTGA TGCTCGCATG GTGGAATATG CTAAGGCCAA	1620
TGCTCAGGTA GCTGGTGTG CAGGAGACAT TACTTTTAAG CAGATGCGCG TGCAGGATTT	1680
ACGTTCCTGAT AAAATCAATG GAGTAATCAT TTCCAATCCG CCTTATGGTG AACGTTTGTC	1740
AGATGATGCA GGGGTGACCA AGCTCTATGC TGAGATGGGG CAAGTATTTG CACCGCTGAA	1800

405

AAC TTG GAGC	AAATTTATCC	TGACTAGTGA	TGAAGCTTTT	GAAAGCAAGT	ATGGTAGCCA	1860
AGCAGATAAG	AAGCGTAAGT	TATACAACGG	AACCTTGAAA	GTGGATCTAT	ATCAATATTT	1920
TGGTCAGCGT	GTCAAACGGC	AAGAGGTAAA	ATAGAAAGGG	ATACTCATGA	GTA AAAAAAG	1980
ACGAAATCGT	CATAAAAAAG	AAGGTCAAGA	ACCGCAATTT	GATTTTGATG	AAGCAAAAGA	2040
GCTAACAGTT	GGTCAAGCTA	TTCGTAAAAA	TGAAGAAGTG	GAATCAGGAG	TCTTGCCTGA	2100
GGATTCCATT	TTGGACAAGT	ATGTTAAGCA	ACACAGAGAT	GAAATTGAGG	CGGATAAGTT	2160
TGCGACTCGT	CAATACAAAA	AAGAGGAGTT	CGTTGAAACT	CAGAGTCTGG	ATGATTTAAT	2220
TCAAGAGATG	CGTGAGGCTG	TAGAGAAGTC	AGAAGCTTCT	TCGGAGGAAG	TTCCATCTTC	2280
TGAAGACATC	TTACTACCCT	TGCCTCTGGA	CGATGAGGAG	CAAGGCTTGG	ATCCTCTATT	2340
GCTAGATGAT	GAAAAATCCAA	CAGAAATGAC	TGAAGAAGTG	GAAGAGGAGC	AAAACCTTTC	2400
TCGTCTGGAT	CAAGAGGACT	CAGAAAAGAA	AAGTAAAAAA	GGCTTTATTT	TGACCGTTTT	2460
GGCGCTTGTA	TCAGTAATTA	TTTGTGTCAG	TGCTTATTAT	GTCTACCGTC	AAGTGGCTCG	2520
TTTCGACTAAG	GAAATTGAAA	CTTCTCAATC	AACTACAGCC	AATCAATCGG	ATGTGGATGA	2580
TTTTAATACA	CTTTATGACG	CCTTTTACAC	AGATAGCAAT	AAAACGGCTT	TGAAAAATAG	2640
CCAGTTTGAT	AAACTGAGTC	AACTCAAGAC	TTTACTTGAT	AAGCTGGAAG	GTAGTCGTGA	2700
ACATACGCTT	GCCAAATCTA	AATATGATAG	TCTAGCAACG	CAAATCAAGG	CTATTCAAGA	2760
TGTCAATGCT	CAATTTGAGA	AACCAGCTAT	TGTGGATGGT	GTGTTGGATA	CCAATGCCAA	2820
AGCCAAATCG	GATGCTAAAT	TTACGGATAT	TAAAAC TGGA	AATACGGAGC	TTGATAAAGT	2880
GCTAGATAAG	GCTATCAGTC	TTGGTAAGAG	CCAGCAAACA	AGTACTTCTA	GCTCAAGTTC	2940
AAGTCAAAC T	AGCAGCTCAA	GTTCAAGTCA	AGCAAGTTCA	AATACGACTA	GTGAGCCAAA	3000
ACCAAGTAGT	TCAAATGAGA	CTAGAAGTAG	TCGCAGTGAA	GTCAATATGG	GTCTCTCGAG	3060
TGCAGGGGTT	GCTGTTCAAA	GAAGTGCCAG	TCGTGTTGCC	TATAATCAGT	CTGCTATTGA	3120
TGATAGTAAT	AAC TCTGCCT	GGGATTTTGC	GGATGGTGTC	TTGGAACAAA	TTCTAGCGAC	3180
TTCACGTTCA	CGTGGCTATA	TCACTGGAGA	CCAATATATC	CTTGAACGTG	TCAATATCGT	3240
TAACGGCAAT	GGTTATTACA	ACCTCTACAA	GCCAGATGGA	ACCTATCTCT	TTACCCCTAA	3300
CTGTAAGACA	GGCTACTTTG	TCGGAAATGG	CGCTGGTCAT	GCGGATGACT	TAGATTACTA	3360
AGCAGTCGG						3369

(2) INFORMATION FOR SEQ ID NO: 43:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 9713 base pairs

406

(B) TYPE: nucleic acid
 (C) STRANDEDNESS: double
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 43:

AAGTTTACAA TTAAATGAA TTAACAATTT TCCCAACTAA AAGCACTCCA GTTACCGCAA	60
CGTTTGTACT GAATGTACTA AATCGCATTC CATCAACTTC ATCTGTTTCG TCAACTTGAA	120
CAGATACTAA TTGAAGATTT AATACITCTG CTGCCATAGC TAGCTCCTCC TATTTAAATT	180
TTTGGGATTA AGTACTTTAT CCACCCTCAT ATACTCTCTC CACCAGTAAA ATGCAAGCAA	240
TGATACAAAA TAGATTTAAC TATTTTATAT AGCGAAAAC TACAAATTTT TAAGAAATAA	300
TTTTTGCATT CTTAAAGATA AAATAGGAAC TTTTAGTAAT AAATATTTAA ATAAATAAAA	360
TAATAGATAC TATAAAATTT GGAAGTATTA ACCCCAAAAG ATTCATATCA TCTATTAAAA	420
TATCCTCTAA AGAGTAGTAT ATTAAGCCCA TAATTTTAAT GTTAAGTAAA AATGCAATTA	480
ATGAAGTAAC AAATGTCAAA AATATAGCCT CACCAACTTT AATCTTAACC ATCTGGTAAT	540
TAGAAGTTCC TAAAATTTCA AATTGCTGAA TCTCAATCCT TTCTTGATGC GATGACAAAA	600
ATGCAATTGA AATAATATTT GCAAGTACTA TCAAAATTGG TGCTCCTACA TAGACAATAA	660
ATGCTACTTT TAGCTCTAAA TCACTGTCTAT CTTGAAATTG AGATAGTATA TTCTGAGAAA	720
TCATTTGAAA ACTAGAAATT AGTAATATAG CTCCTGTAAT TGCAGCACTG ATAGATTTTA	780
TATAAGACTT ACAATATAGT AAATCCCACT TCGAAACAAAT GAACATAAAA TTATTTCTAA	840
ATATAATTAT AGAAAGTAGT TTGATAAAAC ATGACTGTAT AAAAGGAGAT AATTGATAAA	900
TAATCACAAT ATCTAAGATT ACAATATTGA ATATTATCTG GGCCTTCGCT AAAATTGTGC	960
TATCTTGGAA AATTTGTTGC AAAGAAAGCA ACCAGATAAC ACTAAAACCA GCCAATAGCA	1020
GTATTCTTTT TACTATTGAA AGAACATGCC TTATTTTAGA ACTCTTCCTA TTTCTAATCT	1080
TCTTGAACGT ATAAAAGCAA CCACTTAGAA AGGCTAAAAA TGAAATCAAC ACTACTGTAA	1140
TGATACATCC AACAGCACTC GTTTGAAATT GGATATCAGG TAATATATTT TCCCCGAAAA	1200
AGTATTGTAA AAAATAATAA TAATTTGACG TAACAAATAT AGAGCATAGA TATGCAATAA	1260
AACTAATAAT CGAGGAAATG ATAAAAATCT GTCCCCCAC AAGAAATGAT AGTTGAAGGC	1320
GACTTGCTCC CAACACCTCC AGAAGTTCGT AATCATCTCT AAAAATTTC AACAACATAT	1380
TTATTATGTT AGAGAGCACA AAGAATAATG TTACTCCTCC GAATACTATC GGAAACATAA	1440
AAATTGGTTT AGGATCTGGA AGTCCGACAA ATACTTGCGA ATTATTCTCA ACATTAAATTA	1500
CCCCATTAAAC AGCCAATCCC ATAACATAAC TCGAAACAAA AATTACTGGT GAAACGCCTA	1560

407

ACCATTGTTT CTTATTATGT AAAAATTGAT AGTAAACTAA TCTGAGCATC TCTATTCCCTC	1620
CGTAGTTGAT TGTACCTCTA AGATTTTATA CAACTCTTCC CCGCTAGGTC TATGAAGTTC	1680
TTTGAAAAAT TTTCCATCTT TCAATATTAA TGCACGATCA GTTTTCGAGG CCAATTCTAT	1740
ATCGTGC GTT ACCATAATTA CACACTTACC CGCCCCTACT AACTCTCTCA ATAATTCAAA	1800
AATTACTTCA CGAGAAACGC TGTCTAAAGC CCCAGTTGGC TCATCAGCAA ATATTATATC	1860
ACTATCAGCA ATAACCGCTC TAGCTATAGC AACCTTCTGT TGTCTCCAC CAGACAGAGT	1920
TCCAACAAAA TCGTTTAAGC CAGCATTAAA CTTCATCTT TTAGTAAGT TTTCTACATT	1980
TTTAATAGTT AATTTTTTTT GTGATAATCG CAAAGGAAGT GCTATATTT CTATTACCGG	2040
CAGGGAAGGT ATTAAATTGT ATGCTTGAAA TATAAAGAT ACTTCGTAC GTCTTATACT	2100
TGACAAATTT GCATTTCTGA TTTTATAGG GTTGATTCCA TTAAAAATTA CTTCCCCACT	2160
TGTTGGTTCA AGCAAAC TAG AAATACATTT TAATAAGTT GACTTTCCAG AACCCTAAT	2220
TCCTAGAATA CTTATAAATT CTCCTCTCGA AGCAGAAAGA GAAACATTT TCAGCACTTG	2280
CAACGTTTTA TTATTTCTTA GTAAAAATG ATGATACAGC CCTTTCACCT TTAATATATA	2340
ATCTTTATCC ATATTCTTGC CTCCAATCAC TTAATTTTGA AAAGTGTCC ATTTTCCAAT	2400
TTATATATAT CAGTGTATCT CTTGTCATTT AAGTCATAAT GATGTGAAAC TTCAATAAAT	2460
GAAATACCTA AATTGAACAG AATATCATGT ATGGAATTG AATTATCAT ATCTAAATTA	2520
GCTGATATTT CGTCAAAATA GTACACTTTA TTATTTCTAA TCAGAGCTCT AGCTAAAGCT	2580
ATTTTTTGTT TTTGACCTCC AGACAAATTA CTACCATTT CACCACATTG ATAATTTAGT	2640
ATACTATCT TTTCTAATTC TTCATATAGA TTTACCTTT TTAACACCTC AATTATCTGA	2700
TCATCTGAAA AATATTCAAT TTGAAATAAA GTTACGTTCT CACGAATAGT AGTGTCAAAA	2760
ATATATGGTG TCTGATCAAC TGTGGTATT GAATCTGAAC TCTTTTCCC ATGTGATAAC	2820
AAATTTACAT AACCTTTTGT TGGCTTTAAA GAACCATTA TTAATTTAA ATCGTTGTT	2880
TTCCCACTAC CAGAAGTCC TGTTAATAAT ACCCTAAATG GTGACTTAAA TGAGAAGTCA	2940
ATACTTAATT TATTTTCTGG TGAATAGAA TATACAACAT CTTTCATGTG TATCTCATCT	3000
ATTGATGAAG TATACAGTCC GTTATTATCA GTTCAGCGT CTATAAAAT CTTCTCTCCA	3060
CTTAAGTATT TAAAAACGG TTTCTTAAA TCTTTGGTTG TATTTATCTT ATTTAATGAA	3120
TAGGCAATTG ATTGTATCGG CCCTAAACT TTATCGTTG CTAAGAAAAT ACCTATCAGT	3180
TCATAAAAAG AAAGGCTTT ATGATAAATT ACAAATAAC ATCCTACAAC CAAGGGAAC	3240
AGAAAGCAAA AACCTGAAAT TAGTACTGCA ACCAATTTG AAAGAACCTC TGATCGTTTC	3300

408

AAATTAAAAG TAGAATCTTC TAGTTTATCC AACTTTTTAT CCGACAAACT AATTATTTCT	3360
TTAGTAACAG AATAAGATTT TAATGTCTTA AAACCATTAA AAATTTCTTT TATTATGTGA	3420
GTATACTCTG CATTGCTGTT AGAGTACTCA TTAGCTGAAT TAGACAACAT CTTCTTCATA	3480
AAGACAGGTA CTATAATCGG CAATGCTGAT AATACAATAA ATATTATGA NACTAGGAAG	3540
TTTAAATAAA GCATAAACT TAGAGAGACG ATGAACAACA ATATTGAAGA AATTATTTCA	3600
AAAATTIGTC TAAAATAGTT TTCTTCGATT AATCTCAAAT CATTTGACAA AACTGAAATA	3660
ATAGATGAGT AATCTTTAAC CATTTTCAGAA GAAAGATACT GTTCTCTAAA ATATCCTTGT	3720
TTAATTTTTA CATTTATATC TTTAGTTATT GATGCTCCG TTAATTCTAA ATAGTAATTT	3780
GATATATAGA TTGCTGACCA ACCCAGAATA CTTATAGCAC CAAATCTTAG AACGTCAGAA	3840
AATGAGGAAG TCTGATTTAA ACTACCTGCA TATACAATAA TTCCTGAGAG CAAGACACCA	3900
TTAAACGAAG ATAGAAATAT TAAAATCCCC ATTAATATAA GTTTAGTCTT TTTATAAAAT	3960
TTTAAATAAT TCATAAGTTA TTCCTTCCCA CTTCTTCAAA GAAATAATTT AAAGTATCAA	4020
TCATTAAGAG AACATCTGAT GGAGTAAAC CTCCATGACC AGCTGCTTTG TTTAAATACA	4080
ACAACTTTT AACTCCAATA GAATTTAATT TCTTTGACCA CTCTATCACT TCGTTATTAT	4140
TAATATATGG GTCTTTCTCA CCCAAATAT TAACTATAAC AGTATTTGAG TCTCGTGCCT	4200
TTTCAATATT TTGCATAGGC GAATATGACT TTATATAAGC CTTTACTTCA GGGTCTCTAA	4260
TATCTCCCCA CTCTGCTATT TCGGTCTTAG AAAGAGGATC ATTTGGATTC TGAAGTGTAT	4320
CATAAGGATT TATAAATGGC GAAAATAAGA GAATGCTTTG CAATAAATTT TTTTCCCTCGT	4380
TCAACACCGC ACCAGCAATT ATTCCACCTG CACTAGAAGT TATTAAACCT AATCGCTTAC	4440
TGTCAATTAC ATCATTTTCC CTTAAATAAT TTACTCCCTC AATAAAATCT CTGATAGAAT	4500
TCCATTTGTT TAACGCCTTT CCTGAGCGAT ACCATTACC ACCCAAATAG CCTCCACCTC	4560
TTACATGAAC TATAGCATAA ATAAACCTG CATCTATTAT AGATAACATA ATTTTATCTA	4620
AATCAGAAAT ATCATTTCTTA CCATAAGCCC CATAGACACT TAGAATACAT TTTTCTCTTC	4680
TTGGGAGCTC ATCCGTATCT TCACTTTTCC AAAATAAAGA AATCGGTATG CTTACATCAT	4740
AACTGTCTTT TTTAGTCCAA ATCACCTTAG AAAAATATTT AGTATTATTC GATTTTATGA	4800
TGGGTCTTTC AAATTCAGTT TTTAATGTAT TTTCTATTAA ATCAAACTA AGTATTTTTT	4860
CGTAAAAAGT TCTCCTCTCT AAAAACAGAA GAACACGATC AGAAAAATGAA TTTTCATAAA	4920
GTGTTGTCTT TTCATCAAAT GTTATCTTAT TAACACTCAA CTCCCTCAA CTATTATTTT	4980
TAAATGTAGC AAGATAAAG ACGGAATTCG CTGCGTTTGA ACAGTCTAAA AGGATATAAC	5040
GTCCATATACA GTGAACCTCT CTAGCCCTAT CTTGATATGG TATAGTAATA GAACTCTGT	5100

409

CTCCCGAAGA AGTTTCCCTT AGAATTAGTT GATCTTCTT TTCTTCAGTT GAAGAGAGCC	5160
CAAGAAAGTA CTGTGCTTTT TCTGTACTAA ATAGAGCGAT ATCTCTAGGT GTTGGGGCTA	5220
CCGTTTCTGT GTAAGAGTGT CTAACAAAAC CCGTCCGGTC GAAACTGTAT AGAAAAATCC	5280
TGCCTTCTTG AAAGTCTACT GACTTTACAA AACAAATTATT GCTATCAATG TGGACTATTT	5340
TTAATCGAAA AGAGCATTCG TTTTCTTCAA ACAGTTCCTC TTCTGTAAAG CTATCAAAAG	5400
ATTTATAGAA TAACTTACTT GGCCTCCCGT ACTCTTGGGA GCGAGTATAC ATAACACCGA	5460
ATTTACCCAA ATAGAACGAA CTTTCTACTG AAATATCTTC AATGATAAAT AACTCTTCCA	5520
TAGTATATTT TTTTATTCCA ATTAAATTAG TCGTACGCAG TGAGGATACA ACCAAAATA	5580
TATAACTCTC ATCAGATGAA ATCCTAACAT CCTGTAAGAT ACTATCATCT GGCAAAGTAT	5640
ATTTTCCAC ATCAAAGACA ATTTTAAGTG AATTGGAATT GTCTAAACTG GAAGAACTAA	5700
CCTTAGGAAT CCAGTCATTA TCTTCGACAT ACCATTCTTT TATTACACCA GTATTGGGTA	5760
TACTCCAATT ATCAAATTGG TACCAATATC GCCCTCTCCT AAATATCAA GAATTCCATT	5820
TTTTTAATTC CTGAAATGAT GAAGAGATAG ACCTCTTATA GTGTGTTTTT TCCTGTATTG	5880
TATTTAAAAA TATTTTATTA CTCTGATTCA CAAGTATGAC CCCTTAATAA TGGTATCTAA	5940
ATATTATATT TGAGGAAGAA TCGTCAATTT ATTATCCATT ATTGATACCA ATCCAATTGC	6000
AACACCCGCA AATCCCGAAG CAATATCTGT TGTATCTTT AAACCATTAT CTCCCGCAAT	6060
AACAAATCCT TCTTCAATTA CACACAAATA TCTATAAAGT TGTTCATTA ATTTCTTTTG	6120
TCCTGAAAAG TTATCATCGA TATCACTATA TATATTATTA GCAACTTCAA GACCACAAAA	6180
TCCGTTAAAT AAACCTGGTA ATACACAAAA AACTACATCA GTTGCCCTCT CTAAAGAAGT	6240
TAAATATTTT AAGTATTTGC TTGACAAGAT TTCTTTATTT CTATTAATAA GTAAAAGCAG	6300
GCCAGCACTT CCAGTTGCTA GATATGGTAG TAATCTATGA CCTTGGCTGT ACTGCAATGA	6360
ATTATTACTA TCTACTTTAT AAGCAACTAA TTCTTTATCT ACAGCCAATT CTAGACCATT	6420
TTTATAGATA CTTTCACCAG TTAATTTATA AGCTTCACCG AAGAGCCAAG CTACCCCTGC	6480
GTGACCATAT AGTAATCCAC CAAAATTCTC ATAAGGATCG TTAATCTGAA CATCACTAGC	6540
GCCAACTTTA CAAAAAGTTT CTGGATTTC TATAATAATT AAAGTATATT CTCTAAGCCT	6600
AATTAGTATT TCTTCTCCTA GTTTATTATC AATTCCCCCT TTAATAAGAA AATACAGTCC	6660
AACCAGTAAA ATTCCAGCCT GCCCACTATA TAAATTTTAA TTTTGTGAAT TCTCAATAT	6720
CTCTATAAAA TGAGTTGTAA AAAGTTCAAC TGCCCGATCT ATCTCCCAA ATTCATAAAT	6780
GAGCCAGATT GTACCAATTT TACCATCAA AAGACCAGAA AGGGACGATT TCTTAAATTT	6840

410

ATTTACTGCC TCATTAATAA CCTGTGTTTCG AATCTCATAA TAGTCATCAA ACTTGAAATT	6900
TTTTACTTTC TTAGCTAGTT GTTGATAACT CCAAAGGATA GCTAAATCTG AAAACGCAAT	6960
TCCTTGATTA AAATTGAGAC CATAATAATG AACTGGGAAG AATCTTGATT GAAATTCCTT	7020
ACGCCACTGT CCATAAGTTA GCGTAAACCC TCTCAATAAT TTTATAATAA AATCTTGAT	7080
ATCTTGCTCA CTCTCGATAG TTCTAATCTC ATGCATGGGT TTTAAACTT TTTTCCTGGA	7140
AATATTCTCA ATCTGTGGAC ATTTAGAATC TAGATATGAC AATAAACTTT CTACATAATC	7200
TATATGTTCT CTTGTATAAC CCAAAGACTC AAATAGTTTT TTTCCTTCTA TCCTGGTTTG	7260
ACTTACATAG TTGTATGTCA AATCCGATGT AGTTACTAGT GGCATGTATA AATAATGAGC	7320
TATTTGTCTA ATACCATACC AATCTATCTC ACTGGGAAGT GTTTCTCGCC ATGCTCTAAA	7380
ACCAGGGGCT GCAACTTTAT GTACAACTTT TTCATCATTT GAAAAGACAG CCTGTTCCCA	7440
GTCTATTATA CTAATCTCAT CTTTCATCCTT AACCAAGATA TTTCCTAAAT GTAAATCTTG	7500
ATGATATACA TTTTCAGAAT GAAACTTATT CGTTAAATCG ATGAGTTTTT CTACTATCTT	7560
TGAAACTCTC AATAGATAAT CTTTGGTCTT ATCAACAAC TCAATAAAG GAAAATPAT	7620
GGTAACCCAT CTATTTAGTG GAACGCCCTT CATATGTTCA ATTCCTAAGA AGGTGTGCTC	7680
CCAGATCTTA CCGTGCCAGT ATATTTTAGG CGTCTCCTC CATTCAATTA GAATTTTAG	7740
TGCTTTGCAC TCCGAAGCTA ATTTCTCTGA AGAATAAGTA CCATCAAATC CTAGACCTGT	7800
ATACGGTCTA GCCTCTTTTA AAATTATTTT TTTCCCATCT TCTTTTAGCC TAGCATTATA	7860
TATCCCACCA CTGTTTGAAA ATCTAATTGC ATTATCTATA ATAAAGGGAA AGTCTCCCTG	7920
TTTTTTATCT TTCTTGTCAA GCCATTTATT CAAAAGTCA GGGGGCAC TAACCTTTTG	7980
AATTTTAAAT ACTGGTAAAC GTTCATCTTT AACAACTTCA TCGCCAACAA TTAATTCATC	8040
AATAGCAACC TTCTTTTCAT CATCCCTTGA CGGCCTAAAC ACACCATACC TCAGATATAT	8100
TGGTGCTTCA TCCCAACGTT TATCGCTTAA AATATATGGC CCATTATATT GCTTTAAGGC	8160
ACTTCTAAC CTTTGCAAAA CCGACTCTAA TTCATTTTGA TTTGGATAAC ATGTAATAAA	8220
TTTACCAGAA AATCCTCGAC TAACCAATTT CCCGTTTCGC ATGATAAAT TGTCTTCIGT	8280
ACTAAGATGT TTAATGGAA TTCGCATTTT ATGGCAAAT TTTGCTACAT CTTGTAACAA	8340
TTTATGTGAA CTGTTATACT CTGAACCTAAT GTGTATTTTC CACCCCTGTC TTTCAACAAA	8400
TTTTCCAATA GGGTATTGAT AAACCCACTC ATCATTTATC ATTACTTCGT GCCAATTAAA	8460
AGGCAGACTT ACTTGGTACT TTATGCTAGT ATCTGTACTA TAATCATTTAT TAGTGAAAAA	8520
GAAAGGATGC TCCAAATTGA AATTATAATC CATAACAAAA TCTCCAAGAA ATTTTATCAA	8580
ACTTAATATA TCTATAGCTA GACAGACTTA TTTAAATAAA AAGGGAGAAT CCTTTGGATT	8640

411

CTCCCCATAT AAGCTACTAAC ATTCCAACGT GCACATATTG GAACGACATC CATAACTCCA	8700
GAGAATCTCT AAAGTTTACA ATTTAAATGA ATTAACAATT TTCCCAACTA AAAGCACTCC	8760
AGTTACCGCA ACGATTGTGTA CTGAATGTAC TAAATCGCAT TCCATCAACT TCATCTGTTT	8820
CGTCAACTTG AACAGATACT AATTGAAGAT TTAATACTTC TTCTGCCATA GCTAGCTCCT	8880
CCTATTTAAA TTTTGGGAT TAAGTACTTT ATCCACCCTC ATTATACTCT CTCCACCAGT	8940
AAAATGCAAG CAATTATACA ATGTTGTCAC ATAGAAAATA ATGTTTCCGT AACTTTTCAA	9000
AGTAACTTCC ATCTCTCTCC CAAAACGGA AGTTAGTTT AGAAGTTACC TAAAAATCAG	9060
GTCACCTATT TTAATAAAGC AGCAAATAT AACTAGTAG GTTCCACACC AAATGTAGTC	9120
CCATACTGCC CCATAAGTCA GATTTATAGC GCACCATACC TAAAAACATC CCAAGTGAAA	9180
CATACAAACA CCAAGCTAGA ATGGTTCCTG TATGATGTGC TAAGGCAAAT AAAACACTTG	9240
TCAAAGCAAC TCTGATATCT AATTTTCTGA CCAAATCCA TAAAATTTCT CGATACAGAA	9300
ATTCCTCAAC CATACTCGCA TTGATTAAGA ACAATAAAAA TGAAAACCAA GGAATTTGAT	9360
GTTGAAGGCC AATTAAGTTT GCTTGATTCG TGCTTCCTTG AGCATGAATC AGACTAAAAC	9420
ATAGACTTAT AATCAGTAGG CTAACAAATT CAACACCAAG CCATTTTCATC CTAGATTCA	9480
TATTGACCTT ATGCGCTTGT TTGCGTTGGC CATACATCCA TAAAAAGAA ATGAGTGACG	9540
AACCATAGAG AATCTGTAGT ATAGTTmACT CACCGATACA AAGAAATTC AATAAGTATA	9600
GAGrTACCAA TAsGACATTT ACTTGTGGA ATATATAAAC TGGAATTATT CTTTTCATAG	9660
TTACCTCCGA AATAAATCTT CATAATCTAA ATCTAATACC TGCACAATCC TTT	9713

(2) INFORMATION FOR SEQ ID NO: 44:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 8657 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: double
 - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 44:

AAAGAAATG TCAGAGAGTG GCTAGATGAA GTAGCAGAGC GGGCTAAGGA CTATCCAGAG	60
TGGGTGGATG TTTTCGAGCG TTGCTACACC GATACCTTGG ACAATACGGT TGAAATCTTA	120
GAAGATGGTT CAACTTTTGT CTTGACTGGG GATATTCCTG CCATGTGGCT TCGAGATTCTG	180
ACAGCCCAAC TCAGACCCTA CCTTCATGTA GCTAAAAGAG ATGCCCTCCT GCCTCAGACC	240
ATTGCAGGTT TGGTCAAACG TCAGATGACC TTGGTACTCA AGGATCCCTA TGCTAACTCC	300

412

TTCAACATTG AGGAGAACTG GAAAGGGCAC CACGAGACTG ACCACACAGA CCTTAACGGC	360
TGGATCTGGG AGCGCAAGTA TGAGGTGGAT TCGCTTTGCT ATCCTTTGCA GTTGGCTTAT	420
CTCCTCTGGA AAGAGACTGG CGAGACTAGT CAGTTTGATG AGATTTTGTG CGCAGCGACT	480
AAGGAAATTC TCCATCTGTG GACGGTGGAA CAAGACCACA AGAACTCTCC TTATCGTTTT	540
GTCCGAGATA CGGACCGTAA GGAAGACACC TTGGTAAATG ATGGCTTTGG ACCTGACTTT	600
GCAGTGACAG GTATGACTTG GTCAGCTTTT CGTCCGAGTG ATGACTGTTG CCAGTATAGT	660
TACTTGATTG CGTCAAATAT GTTTGCTGTA GTAGTCTTGG GTTATGTGCA AGAAATCTTC	720
GCAGCATTAAC CCTAGCTGA TAGCCAGAGT GTTATTGCTG ATGCCAAGCG TCTTCAGGAT	780
GAAATCCAAG AAGGAATCAA AAACACGCT TACACCACCA ACAGCAAGGG CGAAAAGATT	840
TACGCTTTTG AAGTGGATGG CCTAGGAAAT GCCAGCATCA TGGATGATCC AAATGTACCA	900
AGTCTACTAG CTGCGCCCTA TCTGGGCTAC TGTTCGGTCG ATGATGAAGT GTATCAAGCT	960
ACTCGTCGTA CCATTTTGAG CTCTGAAAT CCATACTTCT ACCAAGGAGA ATACGCAAGC	1020
GGTCTCGGCA GTTCTCATACTTCTATCGC TATATCTGGC CAATCGCCCT TTCTATCCAA	1080
GGCTTGACAA CAAGAGATAA GGCAGAGAAA AAATCTTGC TGGATCAGCT GGTGCTCTGC	1140
GATGGTGGTA CAGGTGTCAT GCACGAAAGC TTTCATGTAG ATGATCCGAC CCTCTACTCT	1200
CGTGAATGGT TCTCCTGGGC TAACATGATG TTCTGTGAGT TGGTCTTGA TTAATTGGAT	1260
ATTGCTAAG GGGCTCGCTT TAGCTCAACC GATTCTTATC AGAATCACA GTTTACATTT	1320
AAAACGTAA AATTTAAATT TAGAATGAGG TTTTACTTCA TGGAAAATGT TGTGTACAT	1380
ATTATCTCAC ATAGTCACTG GGATCGTGAG TGGTACTTGC CTTTGTGAAAG CCATCGTATG	1440
CAGTTGGTGG AATTGTTTGA CAATCTCTTT GATCTCTTTG AAAATGACCC TGAGTTCAAG	1500
AGTTTCCACT TGGATGGACA AACTATTGTC CTTGATGACT ACTTACAAAT TCGCCCTGAA	1560
AATCGCGACA AGGTCCAACG CTACATTGAC GAGGGCAAAC TTAAATTTGG TCCCTTTTAC	1620
ATCTTGCAAG ATGACTACTT GATCTCCAGT GAAGCCAATG TCCGCAATAC CTTGATTGGT	1680
CAACAAGAAG CTGCCAAATG GGGTAAATCA ACCCAGATTG GCTACTTTCC AGATACCTTT	1740
GGAAATATGG GACAAGCGCC TCAAATCTT CAAAAATCAG GCATTACCGT GGCGGCCTTT	1800
GGTCGTGGTG TGAAGCCGAT TGGATTGAC AACCAAGTCC TTGAAGATGA GCAGTTTACG	1860
TCTCAGTTT CAGAAATGTA CTGGCAGGT GTGGATGGTA GTCGTGTTT AGGTATTCTC	1920
TTTGCCAAT GGTACAGTAA CGGGAATGAA ATTCCAGTTG ACAAAGATGA GGCCTTGACC	1980
TTCTGGAAAC AAAAATGTC AGATGTGCGT GCCTACGCTT CGACCAACCA ATGGTTGATG	2040
ATGAACGGCT GTGACCACCA GCCTGTACAG AAAAATCTGA GCGAAGCCAT TCGTGTGGCA	2100

413

AATGAACTCT TCCCGGATGT AATCTTTGTT CATAGTTCTT TTGATGAATA TGTCAAGCT	2160
GTAGAAGGTG CGCTTCCTGA ACACTTATCA ACTGTTACAG GCGAGTTGAC CAGTCAGGAA	2220
ACAGATGGCT GGTACACACT TGCCAACACT TCTTCATCCC GCATTTACCT AAAACAAGCC	2280
TTCCAAGAAA ATAGCAACCT CCTAGAGCAA GTGGTAGAAC CCTTGACTAT TATCACTGGT	2340
GGACACAACC ACAAGGACCA GTTGACCTAT GCTTGAAAA CACTTTTGCA GAATGCCCA	2400
CATGATAGTA TCTGTGGCTG TAGCGTGGAC GAAGTTCACC GCGAGATGGA AACGCGTTTT	2460
GCCAAGGTCA ACCAAGTAGG AAACCTTTGTT AAAAGTAACT TGCTCAACGA GTGGAAGGGT	2520
AAAATTGCTA CGGATAAGGC TCAAAGTGAC TATCTCTTTA CTGTCATTAA CACAGGCTTG	2580
CATGATAAGG TCGATACTGT CAGCACAGTG ATTGATGTGG CGACTTGTGA TTTCAAGGAA	2640
TTGCACCCAA CAGAAGGCTA CAAAAAGATG GCTGCTCTTA TCTTGCCAAG TTACCGTGTG	2700
GAGGACTTGG ATGGTCGTCC TGTAGAGGCT ACAATCGAAG ACCTCGGAGC TAATTTTGAG	2760
TATAATTTAC CAAAAGACAA GTTCCGCCAA GCTCGTATTG CTCGTCAAGT GCGCGTGACC	2820
ATTCCAGTTC ACCTAGCGCC GCTTTCCTGG ACAACCTTCC AATTGCTGGA AGGAAAACAA	2880
GAACACCGTG AGGGTATTTA CAAAAACGGA GTGATTGATA CACCATTTCGT AACGGTGAGT	2940
GTGGATGACA ACATCACAGT CTATGACAAG ACAACTCACG AAGCCTATGA AGACTTTATC	3000
CGCTTTGAAG ACCGTGGGGA CATCGGAAAC GAGTATATCT ATTTCCAACC AAAAGGAACA	3060
GAGCCAATCT TTGCAGAGCT TAAGGGCCAC GAGGTCTTGG AAAACACAGC TTGCTATGCT	3120
AAAATCTTGC TCAAACATGA ATTGACCGTG CCTGTCAGTG CGGATGAAAA GCTAGAAGAA	3180
GAGCAACAAG GTATCATCGA GTTTATGAAG CGTGAGGCTG GACGGTCAGA AGAATTGACA	3240
AACATTCCTC TGGAACTGA GTTGACTGTC TTCGTTGACA ATCCACAAAT CCGCTTCAAG	3300
ACTCGCTTTA CTAACACTGC CAAGGATCAC CGTATCCGTC TCTTGGTCAA GACTCATAAC	3360
ACGCGTCCAA GCAATGATTC TGAAAGTATC TATGAGGTGG TGACACGACC AAACAAACCA	3420
GCTGCTTCAT GGGAAAACCC TGAAAATCCT CAACACCAAC AAGCTTTTGT CAGTCTGTAT	3480
GACGATGAAA AAGGGGTGAC TGTATCCAAC AAGGATTTGA ATGAATACGA AATCCTTGGG	3540
GATAACACCA TTGCCGTGAC CATTTTGCGT GCATCAGGTG AGCTAGGTGA CTGGGGCTAC	3600
TTCCCAACGC CAGAAGCACA ATGCTTGCGG GAGTTTGAAG TCGAGTTTGC ACTGAATGC	3660
CACCAAGCCC AAGAACGCTT CTCAGCCTAT CGTCGTGCCA AAGCCTTGCA GACACCGTTT	3720
ACCAGCCTTC AGCTTGCTAG ACAGGAAGGA AGCGTGGTTG CGACTGGTAG CCTCTTGAGC	3780
CATTCTGTTC TCAGCATACC GCAAGTTTGT CCAACAGCCT TTAAGGTAGC TGAAAATGAA	3840

414

GAAGGCTATG TGCTTCGTTA CTACAATATG TGTAGTGAAA ATGTACGTGT GCCAGAAAGT	3900
CAACATCTCT TCCTTGACCT ACTTGAACGA CCATACCCAG TTCATTGAGG ACTATTGGCT	3960
CCACAAGAGA TTCGTACAGA ATTCATCAAA AAAGAAGAAA TTAAATTTC AAGATAAAC	4020
ATCAAAAGAA AGGAGGGGCG AAAAAGTAAG AACTAACTGC TGATTGCCCC CTTTATGGT	4080
AAAAACAATG ACCATTGCAA CGATTGATAT CGGAGGGACT GGGATTAAAGT TTGCCAGTCT	4140
GACTCCTGAT GGGAAAAATAC TGGATAAGAC AAGTATTTCA ACGCCTGAAA ACTTGAGGA	4200
TTTACTAGCG TGGCTAGATC AACGCTTGTC AGAACAGGAT TACAGTGGGA TTGCTATGAG	4260
CGTTCCAGGT GCAGTCAATC AAGAGACAGG TGTGATTGAT GGCTTCAGTG CGGTGCCCTA	4320
CATCCATGGC TTTTCTGGT ATGAGGCGCT TAGCTCTTAT CAGCTACCTG TCCATTTAGA	4380
AAATGATGCC AACTGCGTTG GACTCAGTGA ACTACTAGCT CATCCAGAGC TTGAAAATGC	4440
AGCCTGTGTC GTGATTGGGA CAGGGATTGG CGGAGCCATG ATTATCAATG GTAGACTTCA	4500
TCGAGGTCCG CACGGTCTGG GTGGAGAATT TGGCTACATG ACAACCTTG CCCCTGCTGA	4560
AAAACCTAAT AACTGGTCGC AACTAGCATC AACTGGGAAT ATGGTACGAT ACGTGATTGA	4620
AAAATCTGGT CATACTGATT GGGACGGTCG CAAGATTTAC CAAGAGCCG CAGCTGGTAA	4680
TATCCTTTGT CAAGAAGCCA TTGAGCGCAT GAACCGCAAT CTGGCGCAAG GCTTGCTCAA	4740
TATCCAGTAT CTGATCGATC CAGGTGTCAT CAGTCTGGGT GGCTCTATCA GTCAAAATCC	4800
AGATTTTATC CAAGGTCTCA AGAAGGCTGT TGAAGACTTT GTCGATGCCT ACGAAGAATA	4860
CACGGTCGCA CCAGTTATCC AGGCTGCAC CTATCAGCA GATGCCAATC TCTACGGTGC	4920
TCTTGCTAAC TGGCTACAGG AGGAAAAGCA ATGGTAAGAT TTACAGGACT TAGTCTCAA	4980
CAAACGCAAG CTATTGAGGT TTTAAAAGGT CACATTTCTC TACCAGATGT GGAAGTGGCT	5040
GTCACCTAGT CTGACCAAGC ATCTATCTCT ATCGAGGGTG AGGAAGGTCA CTATCAATTG	5100
ACCTACCGCA AACCTACCA ACTTTATCGT GCCTTGTCCT TGTGGTAAC AGTTCTAGCA	5160
GAAGCTGATA AAGTAGAGAT TGAGGAACAA GCAGCTTACG AAGATTTGGC TTACATGGTT	5220
GACTGTTCTC GAAATGCGGT GCTGAATGTG GCTTCTGCCA AGCAGATGAT TGAGATATTG	5280
GCTCTCATGG GCTACTCAAC CTTTGAGCTT TACATGGAAG ACACTTACCA GATTGAAGGG	5340
CAGCCTTACT TTGGCTATTT CCGTGGAGCT TATTTCAGCAG AGGAGTTGCA GGAAATCGAA	5400
GCCTATGCC AACAGTTTGA CGTGACCTTT GTACCATGCA TCCAGACCTT GGCCCACTTG	5460
TCGGCCTTTG TCAAAATGGG TGCAAGGAA GTGCAGGAGC TCCGTGATGT AGAGGACAT	5520
CTTCTCATTG GCGAAGAAAA GGTTTATGAC TTGATTGATG GCATGTTGC CACGTTGTCT	5580
AAACTGAAGA CTCGCAAGGT CAATATCGGG ATGGACGAAG CCCACTTGGT TGTTTGGGA	5640

415

CGCTACCTGA TTCTGAACGG TGTTGTGGAT CGTAGTCTCC TCATGTGCCA ACACTTGGAG	5700
CGCGTGCTGG ATATTGCTGA CAAATATGGT TTCCACTGCC AGATGTGGAG TGATATGTTT	5760
TTCAAACCTCA TGTCAGCGGA TGGCCAGTAC GACCGTGATG TGGAAATTCC AGAGGAAACT	5820
CGTGTCTACC TAGACCGTCT CAAAGACCGT GTGACTCTGG TTTACTGGGA TTATTATCAG	5880
GATAGCGAGG AAAAATACAA CCGTAATTTC CGCAATCATC ACAAGATTAG CCATGACCTT	5940
GCATTTGCAG GGGGAGCTTG GAAGTGGATT GGCTTTACAC CTCACAACCA TTTTAGCCGT	6000
CTAGTGGCTA TCGAGGCTAA TAAAGCCTGC CGTGCCAATC AGATTAAAGA AGTCATCGTA	6060
ACGGGTTGGG GAGACAATGG TGGTGAAACT GCCCAGTTCT CTATCCTACC AAGCTTGCAA	6120
ATCTGGGCAG AACTCAGCTA TCGCAATGAC CTAGATGGTT TGTCTGCGCA CTTCAAGACC	6180
AATACTGGTC TAACGGTTGA GGATTTTATG CAGATTGACC TTGCCAACCT CTTACCAGAC	6240
CTACCAGGCA ATCTCAGCGG TATCAATCCC AACCCTATG TTTTATTATCA GGATATTCTT	6300
TGTCCGATTC TTGATCAACA CATGACACCT GAACAGGACA AACCCTACTT CGCTCAGGCT	6360
GCTGAGACGC TTGCTAACAT TAAAGAAAAA GCTGGAAACT ATGCCATATCT CTTTGAAACT	6420
CAGGCCCAGT TGAATGCTAT TTTAAGTAGC AAAGTAGATG TGGGACGACG CATTCTGTCAG	6480
GCCTACCAAG CGGATGATAA AGAAAGTTTA CAACAAATCG CCAGACAAGA ATTACCAGAA	6540
CTTAGAAGCC AAATTGAAGA CTCCATGCC CTCTTTAGCC ACCAATGGCT GAAAGAAAAAC	6600
AAGGCTTTTG GTTTGGATAC AGTTGACATC CGTATGGGCG GACTCTTGCA ACGCATCAAA	6660
CGAGCAGAAA GCCGTATCGA GGTTCATCTG GCTGGTCAGC TTGACCGCAT CGACGAGCTG	6720
GAAGTTGAAA TCCTACCATT TACTGACTTC TACGCAGACA AGGATTTGCG AGCAACTACA	6780
GCCAACCAGT GGCATACCAT TGCACAGCG TCGACGATTT ATACGACTTA ATATTCTTCG	6840
AAAATCTCTT CAAACCACGT CAGCTTCCAT CTGCAACCTC AAAACAGTGT TTTGAGCAAC	6900
CTGCAGCTAG CTTCCTAGTT TGCTCTTTGA TTTTCATTGA GTATAAAAAC AAGAACACCT	6960
TGCTTGGCGC AGGGTGTTTC GCGTGAAACA GAAGAATTAT CTGGTTTCAA ATGCTACAGT	7020
TAGACAAACT TATGATAAAA TAGCAGAAAG TGAATGTTTC CTAAGAGCAA TTGGAGGTAT	7080
TATGCTACAC TTAAAATTAG TAAAACAAGA AATAGAAGCT GAAAAGCCAG CATCTGTAGA	7140
AGCTTGATC ATTTCCGTCA AATTTAAAAA AGTTTGCTAC CGACATATAT AGATTCCAAA	7200
AACAAAAACG TTAGCGGAAC TAGCAGATGT GATTTTATGG AGTTTGTATT TTGCAAATGA	7260
TCATGCTCAC GCATTTTCA TGGATAATGT TGAGTGGAGT CATGCAGATT CTTACTTTCTG	7320
TAGCTTTGTT AGTGACGATG TTGAAGAACG TTACACAGAA AATGTCTATC TGGATAGCCT	7380

416

AAGTGTCAAA CAAAAATTTA AGTTTATTTT CGACTTCGGT GATGAATGGC GTTTTGAATG	7440
CCAAGTGCTG AGAGAAATCG AGACAGAGGA CGAAGAAGCT TATCTCGTAC GTTCGGTTGG	7500
AACGTCGCCA GAACAATATC CAGATTATGA TGGTTTGTAC TATGAAGAAT GGTA AAAATG	7560
AAATCAGTCT GTGTAGGCTT AGTATTTCAA TAGACTTCCT GCAAACTAG AATCCTAGTT	7620
CATGATTGAT AATACCAGCA ATCAAATTCA TTCGTAATCC GAAGCGTTTA CGATGATTTC	7680
GATAGGTTGT TGAAAACATT TTAAACGTTT TTACTTTGGC AAAGATGTTT TCAACCTTGC	7740
TTCTCTCCTT AGATAGCGCA TGGTTATAGG CTTTATCTTC AGCTGTTAGT GGCTTGAGTT	7800
TGCTGGATTT ACGTGAAGTT TGTGCTTGAG GACATATCTT CATGAGCCCT TGATAACCAC	7860
TGTCAGCCAA GATTTTACCA GCTTGTCGA TATTCTGCA ACTCATTTTG AACAACTTCA	7920
TATCATGACA ATAGTTCACA GTGATATCCA AAGAAACAAT TCTCCCTGA CTTGTGACAA	7980
TCGCTTGAGC CTTCATAGCG TGAAATTCTT TTTTACCAGA ATCATTCGCT AATTCTTTTT	8040
TTAGGGCGAT TGATTTTAC TTCCGTCGCA TCAATCATT CCGTGTCTC AGAACTAAGA	8100
GGAGTCTTG AAATCGTAAC ACCACTTTGA ACAAGAGTTA CTTCAACCCA TTGGCTCCGA	8160
CGGATTAAGT TGCTTTCGTG AATACCAAAA TCAGCCGCAA TTTCTTCATA AGTCCGCTAT	8220
TCTAGGCTTA ATTTAGGTTT TCGTCCACCT TTTGCGTGT TAAGTTGATA AGCTGTTTTT	8280
AATACAGCTA ACATCTCTTT AAAAGTCGTG CGCTGAACAC CAACAAGACG CTTAAATCGT	8340
GTATCAGTTA ATGTTTACT TGCTTCATAA TTTCCGAGG AGTCTATTGA CTCTTTGGTA	8400
GGTGTCAATG TTTTTTTCAT CTATCCCGAG AATTATTTTC CCGCCATTTG TATTTGCAAA	8460
TGCTGAGTAG GTTCCCAGA AAGACTCTGG AAGATTGTTT TTAGCTTTTT TGTATTCTAA	8520
ATCAACCCCT TCAAATTTTA AGTCCATATT TTTCCTTTAC ATCTGTTTTT TGTGGTTCTG	8580
GTATTTGTTT AAGTTGAGTG ATAATATAGC GAATTGAATT TCGAGAGTTT TTACTCAGTT	8640
AATTTCTTTT TTAACCC	8657

(2) INFORMATION FOR SEQ ID NO: 45:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 11384 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: double
 - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 45:

TCTATTTTGG GTATAGACTT ACCTATAAAG AAAAATATCT ATACACTGCC TTACTAGCTA	60
TACTGAACGA GTCAACAAAA ACGATATATA TTGATGATAT AAATACAGCA AGATTTTTTA	120

417

ACTTCTTTGG CAATGATATT CCTAATTCGT CTTTAAAAAA AATTGACTAT ATCGCACCTT	180
CAGAAATTGT TTCATTTAGT ACGTACGTTC GACAACGTTC TAAAGTAATT CCTAAAATTT	240
TGGAACATAT ATTAAATCA AGTTTTTTAT TAGAGAATAT AGATGTTTCT GGTACACTG	300
TAAATATTTT AGAAGATCAA TTAACAAAAC ATAGAACAAT CAAAATTAGT AAAAATAAC	360
TGGTTGATCT CATGTATAAA TACCTAACAA AACCACGCGC CTTGCCTGCT GATGGAAAGA	420
AAGGTACAAA TACATGAATA TCAAAGAAAA AATCAAAAAG AATGGCCAAA GAGTTTATTA	480
TGCTAGTGTT TATCTAGGCG TTGACCAACT AACGGGCAAA AAAGCCCGTA CAACTGTTAC	540
AGCAACCACT AAAAAGGCGG TTAAAGTAAA AGCGCGTGAT GCGATCAATA CTTTGTCTGC	600
TAATGGCTAT ACAGTTAAAG ACAAGCCGAC AATTACAACA TATAATGAGC TTGTAAAAGT	660
TTGGTGGGAT AGTTACAAGA ATACAGTTAA GCCAAATACT CGCCAATCCA TGGAGGGATT	720
GGTTAGAGTG CATTTATTGC CTGTATTTGG CGATTACAAG CTATCTAAAC TTACTACGCC	780
TATTCTTCAA CAGCAAGTAA ACAAATGGGC TGACAAGGCA AATAAAGGCG AAAAAGGGGC	840
ATTTGCTAAC TACTCTTTGC TCCATAACAT GAATAAGCGT ATTTTGAAAT ATGGCGTAGC	900
TATCCAGGTA ATACAATACA ACCCAGCTAA TGATGTCATC GTTCCACGCA AACAGCAAAA	960
AGAAAAGGCT GCTGTCAAAT ACTTAGACAA CAAAGAAATTA AAACAGTTTC TTGATTATTT	1020
AGATGCTCTG GATCAATCAA ATTATGAGAA CTTATTTGAT GTTGTCTCTG ATAAGACTTT	1080
ATTGGCCACT GGTGCGCGTA TTAGTGAGGC TCTGGCTCTT GAATGGTCTG ATATTGACCT	1140
AGAAAGCGGT GTTATCAGCA TCAATAAGAC ACTAAACCGC TATCAGGAAA TAAACTCACC	1200
TAAATCAAGC GCTGGTTATC GTGATATACC AATAGACAAA GCCACATTAC TTTTACTGAA	1260
ACAATACAAA AACCGTCAAC AAATTCAGTC TTGGAATTA GGCCGATCTG AAACAGTTGT	1320
ATTCTCTGTA TTACGGAGA AATATGCTTA TGCTTGTAAC TTACGCAAAAC GCCTAAATAA	1380
GCATTTTGAT GCTGCTGGAG TAACTAACGT ATCATTTCAT GGTTCCTGCC ATACACATAC	1440
TACTATGATG CTCTATGCTC AGGTTAGCCC GAAAGATGTT CAGTATAGAT TAGGCCACTC	1500
TAATTTAATG ATCACTGAAA ATACTTACTG GCATACTAAC CAAGAGAATG CAAAAAAGC	1560
CGTCTCAAAT TATGAAACAG CTATCAACAA TTTATAAAAA ATAAGGGTGA CCCATTTCCTG	1620
GGCTACCCCTC TTACTATACC AAAAATTAGT AGGGGTAGTA AAAAGGGTAT TAAATTATAA	1680
AAAGCACTAA GGGAAAGCGC CCCAAAGTGC TTATTTCAAA GGCTTTATAG CCTATAATCA	1740
CATAAGAGA TTATTTTTTA AGGTTGTAGA ATGATTTCAA TCCACGATAT TCAGCTACTT	1800
CACCAAGTTG GTCTTCGATA CGAAGCAATT GGTGTATTT AGCGATGCGG TCTGTACGTG	1860

418						
AAAGTGAACC	AGTCTTGATT	TGTCCTGCGT	TAGTTGCAAC	TGCAATATCA	GGCATTTGTTG	1920
AATCTTCAGT	TTCACCTGAA	CGGTGTGATA	CAACAGCAGT	GTAACCAGCT	TCTTTTAGCCA	1980
TTTCGATAGC	TTCAAAAGTT	TCAGTAAGAG	TACCGATTTC	GTTAACTTTG	ATAAGGATTG	2040
AGTTAGCAGC	ACCTTCTTGG	ATACCACGTG	CAAGGTAGTC	AGTGTTTGTT	ACGAAGAAGT	2100
CGTCACCAAC	AAGTTGTACT	TTCTTACCAA	GACGTTCACT	AAGAGCTTTC	CAACCATCCC	2160
AGTCGTTTTT	ATCCATACCA	TCTTCAATAG	TGATGATTGG	GTATTTGTTA	ACCAATTCTT	2220
CAAGGTAGTC	GATTTGTTCT	GCAGATGTAC	GAACAGCAGC	ACCTTCACCT	TCAAATTTAG	2280
TGTAGTCGTA	AACCTTACGT	TCTTTATCGT	AGAATTCTGA	TGAAGCACAG	TCAAATCCGA	2340
TAAATACGTC	TTTACCTGGT	ACATATCCAG	CAGCTTCAAT	CGCAGCAAGG	ATAGTTTCAA	2400
CACCATCTTC	AGTTCCTTCG	AAACGAGGAG	CGAATCCACC	TTCGTCACCT	ACGGCAGTTT	2460
CCAAACCACG	TGATTTAAGG	ATTTTCTTAA	GAGCGTGGAA	GATTTCAGCA	CCGTAACGAA	2520
GGGCTTCTTT	AAATGTTGGC	GCACCAACTG	GCAAGATCAT	GAACCTTTGG	AAAGCGATTG	2580
GAGCGTCAGA	GTGAGAACCA	CCGTTGATGA	TGTTTCATCAT	TGGAGTTGGA	AGAACTTTAG	2640
TGTTGAATCC	ACCAAGATAG	CTGTAAAGTG	GGATTTCAAG	GTAGTCAGCA	GCAGCACGAG	2700
CTACAGCGAT	AGACACACCG	AGGATTGCAT	TCGCACCCAA	TTTACCTTTG	TTAGGAGTAC	2760
CGTCAAGTGC	GATCATAGCA	CGGTCAATAG	CTTGTGTGATC	ACGTACATCG	TAGCCAATGA	2820
TAGCTTCAGC	AATGATGTTG	TTTACGTTGT	CAACAGCTTT	TTGTGTACCA	AGACCACCGT	2880
AACGAGATTT	GTCACCGTCG	CGAAGTTCAA	CTGCTTCGTG	TTCACCAGTA	GAAGCTCCTG	2940
ATGGAACCAT	ACCACGTCCG	AAAGCACCTG	ATTGAGTGTA	AACCTCTACT	TCAAGTGTTG	3000
GGTTACCGCG	TGAGTCTAGG	ACTTCGCGAG	CGTAAACATC	AGTAATAATT	GACATTTTTT	3060
ACTCTCCTTA	TGAGTTAAAT	TTTTTACACC	TCTATAATAC	CTTAAAACCC	CTCCTTTTTT	3120
AAGAAAAAAC	GTTATCTTTG	TGCAACTTTT	CCTTAACTTT	ATAAAGTAAT	CGCTTCTTTT	3180
TGTCTGTTTT	ATTCTAACTT	TTATGATATA	CTGTTTTTCAT	GACAGATTTA	TCAAAACAAAT	3240
TACTTGAAAA	AGCTCATGGT	GGGTTAAAAA	TAAATCCGGA	TGAGCAAAGA	CGCTATCTTG	3300
GTACTTTTGA	GGAAAGAGTT	CTTGGATATG	TAGATATTGA	CACAGCAAAT	AGCCCTCAGT	3360
TAGAAAAAGG	CTTTTTATTT	ATTTTAGAAA	ACCTTCAGGA	AAAAGCAGAG	CCACTATTTG	3420
TGAAGATTTT	ACCAACTATC	GAATTTGATA	AGCAAGTTTT	CTACTTAAAA	GAAGCAAAAG	3480
AAACTGATAG	TCAAGCCACC	ATAGTATCTG	AAGAGCATAT	TACTTCTCCT	TTTGGCCTGG	3540
TTATTCATAG	CAATGCACCA	GTTCAAGTAG	AAGAAAAAGA	CCTTCGACTT	GCTTTTCCAA	3600
AACCTTGGGA	AGTTAAAAAG	GAAGAACCAG	CCAAAACATC	CTTATGGAAG	AAATGGTTTA	3660

GCTAAATCTT	GCACATATTT	AATAAGTGCC	CAATATTGGC	AGCCGTGCGC	TCCAGATAGA	3720
AACTGGCATT	TTTCAAACCTA	TCTTCTAAAG	GTTCACTTTT	CTCCAAAATA	GAAAAGACAG	3780
CTTGATATT	TTCAAATGGT	AGGGGAGGTA	AATCTTCAGC	AAGACTACCG	CAAATAGCAA	3840
TAACAGGAAC	TCCAACAGGG	GTTCTTTTGT	CAACACCTAT	AGGCGCTTTC	CCAGCAAAGC	3900
TTTGACTATC	AAGTCTTCCT	TCTCCAACAA	CAACCAAGTC	AGCATCTGAA	ACTTTCTTAT	3960
CAAAGTTGAT	TAAGTCCAAG	CAGGTATCAA	TTCCAGACAC	GATACTTGCC	TGAGCAAAGG	4020
CACACAAACC	ACCAGCAAG	CCTCCACCTG	CTCCTGCTCC	TTTAATTTCT	AATGTTGCAG	4080
GTGAGAATTT	TTCATAAAAA	TCTTGATCG	CCTGATCTAC	GACTGCAAAC	ATAGTCGGAT	4140
GTAGACCTTT	TTGATTGCCA	AAAGTGTAAG	TCGCACCTTG	ATGACCACAT	AAGGGACTCA	4200
CGACATCTGC	TAAAAATGA	ATTTGAACAC	CTTCAGGAAT	TTTATAGCAA	TTTTCTGTTG	4260
AAACAGAAGC	TAAGTTTAAT	AAGGATTGAC	CGGAAGCAGG	CAAGACATTT	CCATCCCTAT	4320
CATAAAATTG	ATAACCTAAA	CCAGCAGCAA	TCCCCAGTCC	TCCATCATTA	CTGGCCGTGC	4380
CACCAACACC	GATATAAATA	TCTTTAATCC	CTTTAGAGAT	GAGATGAAGA	ATCAACTCTC	4440
CAATACCACA	AGTTTGGATT	TGAAGTGGAT	TTCTGTTCTC	TAGCGGAATT	TTTCCAAGAC	4500
CAACCAAGTC	AGCTACTTCA	AATAGTGCCA	GTTCCCTTTT	TTGAAAATAG	CGCATGGCTT	4560
CTTTTGTGCC	AAAAGGGTCT	GTCACTTGGA	TCCAATTTTC	TTTTAGGTCA	AGAGAAATGTC	4620
GGATAGCATC	TACAGTACCT	TCTCCCCCAT	CACCAACAGG	GCAGAGGAGA	CATTCTACAT	4680
CTGCTATCGA	TTGTTGGAAG	CCTCTTTTTA	TTGCTTCAGC	TACCTGTTGA	GCTGTCAAGC	4740
TTTCCTTAAA	CGAATCCGGT	GCAATTACAA	TCTTCATATT	TTCCCTCATT	CTAAACAGTC	4800
AATCAAAGGG	AGAACTTCTA	AAAAATCCCT	CTTGTCACAA	TGATGTGGTA	TTTCTTTTTT	4860
GAGCACTTCT	TTGGCACAAA	AGGCGATTCC	TAACCTCGCC	GACTTCAACA	TTAATAGATT	4920
ATTAACCCCA	TCACCGATTG	CCACCGTTCT	TTCTTTAGAA	AGTTTGTAGT	TCTTTCTCCA	4980
TTTTTCCAGA	GTCTCTTTTT	TGACCTGGGG	ACTTATAATT	TGTCCAACCTA	ATTTTCTCTG	5040
TAAAAGACCT	TCTTTGACTT	CAAGCTAGTT	GGCAGTGAAA	TAGGCAATAC	CAAGGGATT	5100
TGCTAATCTC	TCCAACATAT	GGTGTAATC	CACCAGACAC	CAGACCAACT	AGGATGCCAT	5160
TCTTTTGAG	AATAGAGATG	AACTCTGGGA	CATTTAGCGA	TAGATGAATT	GAGTTGAAGA	5220
CGTTATCAAA	GACCAAAATA	GGAAGACCTT	CCAACAAGGA	CACTCTTTTT	CTTAAACTGC	5280
TTTCAAAGAC	CAACTCTCCT	CGCATTGCTC	GACTTGTAAT	CTGCGAAATT	TCCGCCTCAT	5340
GACCTGCCTC	TCTCCCTAAA	AGATCAATCA	CTTCTTCTAG	GATTAAGGTT	CCATCTACAT	5400

420

CCAAAACACA CAAGCCTTTT ACTTGAGACA TCAGTTCTCC TCTCTAAACA GCCTAAAAAT	5460
CGTATGAAGT CATCATACGA TTTTATCTAT TAATTAAC TAATATGGTA CAAGTCAAGG	5520
TATGACTTGC AGGCTGTATC CCATGAGAAG TCACTCTCCA TAGCTTGT TTGTAGGTTT	5580
CTCCAAATGT CTGGATGGTT TCTATACAAG TCCAATGCTG TTTGGAAAGT CCAATTTAAC	5640
CAATAAGGAG ATAGATTGTC AAAGCTAAAG CCAGTACCGC TTCCTTCGAT TGGATTGAAA	5700
GCGCGAACTG TATCTCGCAA GCCTCCAACT TCATGGACCA ATGGCAAGGT TCCATAACGC	5760
ATAGCCATCA TTTGAGACAA GCCACACGGT TCAAAACGAC TTGGCATGAG GAAGAGGTCA	5820
CAAGCAGCGT AGATTTCTTG AGCAAGTTTG ACATCAAAAG TGATATTTGT TGATAGCTTG	5880
TCTGGGTAAA TCTGAGCAAA CCATGAGAAA GCTCCTTCAA AGGCTGGATC GCCAGTTCCC	5940
AAAAGAACAA TCTGAACATC TTCTTGCAAG ATATGGTGAA GACTTTCGAC CACCACATCA	6000
AAACCTTTTT GACGTGTCAA ACGAGAAACA ATTCCCACCA GTGGAACGTC TGCTCTAACA	6060
GGCAAGCCAA CTCTTTCTTG CAATTTTGCC TTATTTTGG CTTTCCCAGA CAAATCTTCC	6120
TGATTGAAAT GATAGTCTAA AAGAGCATCC GTCTGAGGAT TATAAAGATC AGCATCAATC	6180
CCATTACGA TACCAGATAC TTTACCAGAC TCCATTTTAA GAATCTGATC CAAATTACAT	6240
CCAACTGAC TAGTCATAAT TTCATGAGCA TAGCTAGGTG AAACGGTTGA AACACGGTTC	6300
GCATAGAGAA TACCTGCCCT CATCCAGTTC AGACAGTTGT TCCATCGAAG GGTGCCATCA	6360
GCGTAACGTT CAAAGCCAAC TCCAAACAAA TCACCCAACA TTCCTCTGA AAATTGTCTT	6420
TGGAATTCTA AATTATGAAT GGTAAAACT GTTCAATGT CCTCATAGGC TTGAATCCAA	6480
CGGTATTTTT CCTTCAACAA GAAAGGAATC ATAGCTGTAT GGTAAGTATG AACATGGAGA	6540
AGATCAGGAA TAAAGTCAAT CCTTTCCATA GCCTCAATGG CAGCCAGTTG GAAAAAGGCA	6600
AAGCGTTCTC CGTCATCAAA ATCACCCTAA ACATGACCAC GGAAGAAATA ATATTGATTG	6660
TCAATAAAGT AGAAGGTTAC ACCATTTAAT ACTGTTTTCT TAATTCACA ATACTGTCTG	6720
CGCCAACCAA CGCTCACCTC AAAATGAAGC ACATCTTCAA TCTGATTTCC AAATTTAGCC	6780
TCTACCATAT CATAGTAGGG TAAATCACT GCAACTTCGT GCCCAGCTTT TACCAGTGAT	6840
TTTGGAAGAG CGCCAATGAC GTCTCCCAA CCACCTGTTT TTGAAAAGG TGCACCTCT	6900
GCTGCTACAA ATAAAATTTT CATGAATGAA TATCCTCTGT TACTTTAGCA CCTTTCTTAA	6960
CCACAACTGG ATGTTCTGCA GTTCCTCGAA TCACAACACC ATGCTCAACT TCAACCCCTT	7020
TGTCCAAGAT AGCATATTG ACCTGAGCCC CTTCTCCAAT AACAAACGA GGAAGAGCA	7080
GGCTATCTTT AACCAAGCTA TCCTTATGGA CATGAATATT ACGTGATAGA ACAGAATTAG	7140
CTACTTGACC TTCAATAATA CTACCAGAG CAACTGAGA AGTGCTTACC TTAGATGTAT	7200

421

TAGCATAGTA	AGTTGGCTCT	TCGTTTTTGA	CCTTTGTATA	AATCTTTTGG	TTTGGTGAGA	7260
AAAGAGAATA	GAATTTTTGT	GATTCAAGCA	TATCGATATT	CGCTTGATAA	TAAGATTTAA	7320
CAGAGTGAAT	ATTGGCTAGA	TAGCCCGTGT	ACTCGTAGGC	GAAAGCTCCC	TCTTTTACAG	7380
CCAAATCCCG	TAAAACATAG	CGCAATTTCT	CTGGATGTTC	TTTTTTAGCT	TCTTCTTCCA	7440
AGTGTTC AAT	CAACCAAGGT	GTATCAACGA	CAAAGATATC	TGTAGACATA	TTGAACGTTT	7500
CAGCTGTTGA	CTTGCTATCA	AAGAGTTTAT	GAGAAAGAAC	ATGGTCTGTT	TCATCTACAT	7560
CCAAGATTGC	ATTTACTTCT	GAAATATCTT	TCTTAGCTAG	TTTTTTATAA	ACTACAGTGA	7620
TAGGCTCTTT	TGTTGTACTA	TGTAGGTGGA	AACTTGGTT	CAAATCAATG	TTAATAAGAA	7680
CATCGCAGTT	GAGGGCAACC	GTTTGGTTTG	AGCCAGAACG	TTTCAAATAA	GTAAGAAGCT	7740
GTTGGTAGTA	TTCTTTTCCA	ACTGTACTAC	TTTCTACACG	GGTATTGTAA	ATTCCTAGAT	7800
AGTAATGGCT	AAGAAGGGTT	GATAAGCCCC	ACTCGCGTCC	TGAACGAATA	TGGTCAAATA	7860
CTGAGCTGAT	ATTATCCTGC	TGGAAAATAC	CAAAGACACT	ACGAACACCT	GCATTAGCAA	7920
GGCTTGAAAG	TGGGAAGTCA	ATCAAACGAT	ATTTCCACCC	AAATGGCAAA	CTTGCTACTG	7980
GACGGTGGTC	CGTCAATGTC	GACATATTGT	GAAAACCAAC	TGTATTTCTT	AAAATGGCAG	8040
AATATTTATC	AATCTTCATC	TGTTGCTACC	CCCACTACTT	CATTATATCC	TACAACTTGT	8100
ACTTCATCTG	TTCCATCAAT	TTTCGACACG	TCAGAAATAA	TCGCACCTTC	ACCAATAATG	8160
GCACGTTTAA	TCTTAGCTCC	TTGACCAATG	ATAGCTCCAC	TCATGATAAC	TGAATCAAGC	8220
ACTTCCGCTC	CTTCGCGAAC	TTGCGCGCCT	GTTGAAAGGA	TAGAATGTTT	AACAGTTCCA	8280
TCAACGAAAC	ATCCGTCTAC	AACTAATGAG	TCTTCCACAT	GAGCATTTGC	CCCGAGGAAG	8340
TTTGGTGGTG	AAATCAAGTT	TCTTGAGTAA	ATCTTCCATT	GACGGTTACG	ACTATCCAAG	8400
GCATTTTCTG	GAGAAATATA	CTCCATGTTT	GCTTCCCAAA	GTGACTCAAT	AGTACCAACA	8460
TCTTTCCAAT	AACCACTAAA	TTCGTAAGCA	TAAACACTTT	CACCTGACTC	AAGGTAATTT	8520
GGAATGACAT	TTTTACCAAA	GTCTGACATG	CCAACCTTGC	TCTTTTCAGC	AGCGACTAAC	8580
ATATTACGAA	GGCGTTGCCA	ATCAAAAATG	TAGATTCCCA	TAGAAGCTTT	TGTAGATTTA	8640
GGTTGAGCTG	GTTTTTCTTC	AAATTCAACA	ATACGATTGT	TAGCATCTGT	GTTTCATGATA	8700
CCAAAACGGC	TTGCTTCTTT	AAGAGGGACG	TCTAAAACCTG	CTACTGTCAA	GCTGGCATTA	8760
TTATCCTTAT	GAGACTGGAG	CATATCATCA	TAGTCCATTT	TGTAGATGTG	ATCCCCAGAC	8820
AAAATCAAGA	CATACTCAGG	ATTGACACTG	TCGATATAGT	CGATATTTTG	GTAAATAGCG	8880
TGACTAGTCC	CCTCAAACCA	ACGATTTCTT	TCACTTGCAG	AATAAGGTTG	AAGAATAGAG	8940

422

ACACCTGAAT TAATACCGTC TAGICCCCGAG CTTGAACCAT TCCCAATATG GTTGTGAGA	9000
GCAAGTGGTT GATACTGTGT AACGACCCCA ACATTGTGAA TCCCTGAGTT GGCACAGTTT	9060
GATAGGGCAA AGTCAATGAT ACGGTAGCGC CCACCAAATT GCACAGCTGG TTTTGCGATG	9120
CTTTGAGTGA GTTTACCGAG ACGAGTTCCT TGCCCACCAG CAAGAATCAA AGCTAACATT	9180
TCATTTTCA TTTTCTACTC CTTTTGGTT TTTATTTGTG ACGGTTTATG TAGATTTCAA	9240
GCGACGTTTG ATTTTCCATA CACTTGCTCC CATAGCCGGT AGGGTAAAGG TTAAGGTCTG	9300
CTCATAATCT TTCCATAGTC CTTCTTGCGT TTGAACAGTT TGATTATGTT CTTTCCAAAC	9360
GCCTCCCCAC TCTTCCAAC TAGTATTCCA TACTTCTTCG TAAATTCCTG CAACGGGTAG	9420
TCCGATTGTA AAATCTTTC GCTCAACAGG TACCATATTA AAGATACAGA CTAACATTTT	9480
TCCCTTTTCA CCCTTACGAA TAAAGGAAAG AACACTCTGG TCTCGATTAT CCGCATCAAT	9540
GATTTCAATA CCATCATAGC TGGTATCAAT TTCCCACAGA CAGCGATGAT CTTTGTAAAA	9600
CTGGTTTAGC TGAGAAGCGA AATACTTCAT CTTAGCATTC ATTTGGTCTT CTAGGTTAGA	9660
CCATTCCAAC TGTCTTCAG ATTTCCATTC TAGGAATTGA CCGTATTTCG TACCCATGAA	9720
GAGCAATTTT TTACCAGGGT GACAAATTG GTACGTATAG AGATTGCGCA AGCCTGCGAA	9780
TTGATTGTAA CGATCTCCCC ACATCTTATG CATCATACTC TTCTTGCCAT GAACCACTTC	9840
ATCGTGCGAG AATGGCAAGA GATAATTCTC CTTGAAAACA TACATAAAGC TGAAAGTCAC	9900
CAGGTAAAG TCATATTTAC GATAGATCGG ATCTTCTTCG TAGAAACCGA GGATATCATT	9960
CATCCAGCCC ATGTTCCATT TGTAGTCAA TCCTAGACCA CCAATCTCTT TCATTCCCGT	10020
AATCTTGATC GCAGACGAAC TTTCTTCTGC AATCATCATC ACATCTGGAT ATTCTAACTT	10080
AATAACCTCA TTCAAGCGCT GAAGGAAATA ATAACCTTCA TAGTTGAGAT TTCCGCCATC	10140
TTTATTAGGT GTCCATGGAG CATCATCATA GTCCAAATAG AGCATGTTGC TAACAGCATC	10200
CACACGAATA CCATCCAAAT GATAGACATC AATCCAATGC TTAATGCAAG AAATTAAGAA	10260
GGACTGGACT TCATTTTTC CAAGGTCAA ATTAAGGGCA CCCCACCAT GGTATGAGC	10320
CTTATTATGG TCTTGGTATT CAAAAGTCGG TGTCCCATCA TAATAGGCTA AGGCATCATC	10380
GTTGATGGTA AAGTGACTGG TACCCAGTCC ACAATAACCC CAATATTATG GGTATGACAC	10440
TCCTCGACAA AATCTTGAAA CTCCTCTGGT CGGCCATAAG CATGCTCTAA AGCGAAGTAA	10500
CCCATAAGCT GATACCCCA ACTCAAGCCC AAAGGATGGG ACATCAAGGG CATAAACTCA	10560
ATATGAGTAT AGTTCATTT AACGAGATAA GGAATGAGTT CATCCTTGAG CTGGGCAAAA	10620
CTATAAGGAC TGCCATCAGA ATTTCTTTTC CATGATCCAG CGTGAAC TTC ATAAATATTG	10680
ACAGGACGCT CTTCAAAGCC CCAACGTTTT CTTCTGTCCA GCCAAAGTCC ATCCTTCCAT	10740

423

TTCTTCTCAG GAAGCTCTGT TACGATTGCC CCTGTTCCCTG GACGAGCCTC ATACCTGACA	10800
GCAAAAGGGT CAATCTTCAT CAGTTGATGA CCATTTTGAC GTGTGACATG ATATTTGTAA	10860
ATATGCCCTT CTTGAGCCAT ATTGGTAAAG ACTTCCCAGA CCCCAAAATC ATTTCTTACC	10920
ATTGGAATCT GATTTTCAAT CCAGTTGGTA AAATCACCAA CCAAGTGAAC AGCCTGAGCA	10980
TTAGGTGCCC AAACACGGAA GGTATAGCCA TGCTCTCCAT TTAGTTCCTC CCTATGTGCT	11040
CCTAGATAAT GTTGAGATA AAAATTTTCA CCCGTCATAA AGGTTTTTAA TGCTTCTCTA	11100
TTATCCATAT ACTCCCTTC TCCTGTAAGC GTTTTCTATG TTTTATTAT ACTACCTTTT	11160
TAGAGAAGAT TCAAGTAAAT TACTATACTT CTTTAATTAT TTTGAAAATC TACAACAAGT	11220
TCACTTACTC GTTCAATTGT AAATCAATAT TTTTCAAAA AATTGCGAAA ACGCCTTTCT	11280
TTTTCTACTA TAGTGAAATG AAATAAAACA TGCACAAATC GATTAAGGAA TTTAATCTAA	11340
TTTCTAACAA TGTCTTAGAA ATCAAAGTGT ACTATTTTAA CTCC	11384

(2) INFORMATION FOR SEQ ID NO: 46:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 7577 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: double
 - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 46:

TGTTGATTG TTAGTAGACG TTGACCAACG TCCTTCGGCT GGAAAAGGAA TTCTCCTTAG	60
TTTCCAACAC GTTTTCGCCA TGTTTGGTGC GACCATCTTG GTACCATTGA TTTTGGGAAT	120
GCCTGTATCT GTTGCCCTTT TTGCTTCAGG TGTTGGAACA CTCATCTACA TGATTGCTAC	180
TGGTTTTAAA GTTCCAGTTT ATCTAGGTTT TTCATTTGCC TTTATCACAG CTATGTCACT	240
GGCTATGAAA GAAATGGGGG GGGATGTATC TGCTGCCCAA ACAGGGGTTA TCTTGACTGG	300
TTTGGTCTAT GTCCTTGTG CTACCAGCAT CCGATTTGTA GGAACAAAAT GGATTTGATAA	360
ACTCTTGCCA CCAATCATTA TCGGTCCTAT GATCATCGTT ATCGGTCTTG GACTTGCAGG	420
TTCAGCTGTT ACCAATGCAG GTCTTGTAGC AGACGGAAAT TGGAAAAATG CTCTGGTAGC	480
CGTTGTACT TTCCTAATTG CTGCCTTTAT CAATACAAA GGAAAAGGCT TCCTACGAAT	540
CATTCCATTC CTCTTTGCCA TTATCGGTGG TTACCTTTTC GACTAACTC TTGGCTTGGT	600
TGACTTTACA CCAGTTCTTA AAGCCAACTG GTTCGAAATT CCTGGTTTCT ACTTGCCATT	660
TAGCACAGGT GGTGCCTTTA AAGAGTACAA TCTTTACTTT GTCCAGAAG CCATCGCTAT	720

424

CTTGCCAATC GCTATCGTAA CAATTCTCTGA ACATATCGGA GACCATACTG TTTTGGGTCA	780
AATCTGTGGT CGTCAATTCT TAAAAGAACC AGGTCTTCAC CGTACTCTTC TTGGTGACGG	840
TATCGCAACT TCTGTTTCTG CCTTCCTTGG TGGACCAGCC AATACAACCTT ACGGAGAAAA	900
TACAGGGGTT ATCGGTATGA CTCGTATCGC TTCTGTCTCA GTTATCCGTA ACGCTGCCTT	960
CATCGCGATT GCCCTCAGCT TCCTTGGTAA ATTCAGTGCC TTGATTTCAT CTATTCCAAA	1020
CGCTGTACTT GGTGGTATGT CAATCCTTCT CTATGGGGTT ATCGCCAGCA ATGGTTTGAA	1080
AGTCTTGATT AAAGAACGTG TTGATTTTCG TCAAAATGCG AACCTCATCA TCGCAAGTGC	1140
TATGTTGGTT CTTGGACTTG GAGGAGCTAT CCTTAAACTT GGTCCAGTTA CACTTTCAGG	1200
TACTGCCCTT TCAGCCATGA CAGGAATCAT CTTGAACTTG ATCTTGCCAT ACGAAAAATA	1260
AGACTAAGAG TCTAAATACA CCTAATCCAC TCAGACAGCT GAGTGGATTT TTCGTATACC	1320
ATAATAAAAG TGCTTTAACA AAATTATTAA AATCAAAAAA CGTATAATAT CAGATATTCT	1380
AAAACCTTGA TACTGTACGT TTTATCATAG AAATTTTAC TTATTTTCT CATCAAATGA	1440
GATTTGCATC AATCTCTTGT CTTACTTGCG TTTCTTCTTC GCTTTCTTCA TTTTGTTAGC	1500
CATACGTTTC ATGGACTGTT TCATGGCAAA TTCACCAATT TTACCTTTCA AACCGCCACC	1560
AAACATCTGG CTCATATCTG GCATTCTGC TCCTCCGAGA GCTGATAAGT CAGGCATACC	1620
GCCTTGTCCT ATCATTCCTT CAAGGGCAGA CATATCCATT CCTCCCATAT TTGGCATATT	1680
TTTAGGAAGG TTATTTGGAT TAATCCCAT TTGCTTCATC ATTTTATTCA TATCCCCAGA	1740
CATAACACCC TGCATGAGCT GTTAGCCTG GTTAAAGTCC TTGATGAATT TATTGACTTC	1800
GACGAATGTA TTTCCAGAAC CAGCAGCAAT ACGACGGCGA CGGCTTGGAT TTAACAAATC	1860
TGGGTTTTCA CGCTCTTCAG GTGTCATCGA AGACACAATG GCACGTTTAC GAGCAATCTG	1920
GCGTTCATCC ACCTTCATGT TTTGAAGGGC TGGATTGTTG GCCATACCTG GAATCATCTT	1980
GAGCAAGTCT TCCATCGGCC CCATATTTTG CACCTGATCT AATTGATCGA TGAAATCATT	2040
AAAATCAAAG GTGTTTTCGC GCATCTTCTC AGCCATTTC AGGGCTTTT GTTCATCGTA	2100
TTCTTGAGAA GCTTTCTCAA TCAAAGTGAG CATATCCCC ATACCAAGGA TACGGCTAGA	2160
CATGCGGTCT GGGTGAAGG TTTCAATGTC CGTAATCTTT TCACCTGTAC CAGTGAACCT	2220
GATTGGTTTT CCAGTAATGT GACGAACAGA CAGAGCAGCA CCACCACGAG TATCGCCATC	2280
AATCTTGTA AGGATGACCC CAGTCACTTC CAACTGAGCA TTAAACTCAC GCGCAACATT	2340
GGCTGCTTCC TGACCAATCA TAGCATCAAC GACAAGCAAG ATTTCATTTG GTGAGCCAA	2400
TGCTTTCACA TCACGAAGCT CATTCATGAG GAGCTCATCA ATCTGCAAAC GACCCGCAGT	2460
ATCAATCAAG ACATAGTCGT TATGATTAGT TTGGGCTTGC TCCAAACCTT GACGTACAA	2520

425

CTCAACAGCT GGTACTTCTG TTCCAAGTGC AAAGACAGGC ACATCAATCT GTGTCCCAA	2580
GGTCTTAAGC TGGTCAATGG CAGCTGGACG ATAAATATCC GCCGCAATCA TCAAAGGACG	2640
AGCATTTTCT TCTTCTTGA GTTTGTTGGC CAATTTACCA GCAAAGGTTG TTTTACCAGC	2700
CCCTTGTAAG CCAACCATCA TGATGATGGT TGGAATCTTA GGTGACTTGA TAATTTCTGC	2760
CGTATCAGAA CCTAAAACGG CTGTCAATTC CTCATCAACG ATTTTAATAA TCTGTTGCGC	2820
AGGATTAAGT GTATCAATGA CCTCATGCCC GACTGCACGC TCACGAACTT TCTTGATAAA	2880
GTCTTTTACA ACAGGCAAGG CAACGTCGGC CTCGAGCAAG GCCAAGCGAA TTTCTTTGGT	2940
TGCCTCTTGG ACATCAGATT CAGAGATTTT TCCTTTTTTA CGTAGATTTT TAAAGACGTT	3000
CTGCAACGTT TCTGTAAAC TTTCAAATGC CATTTTCTT CCTCTTATTC TCTATTATCA	3060
ATGCTTGTTA AAATTTCTAT CTGCTCTGC AGAAAGTCAT CCTTGGGATA GCGCTCCAAA	3120
ATCTGATCAA AAATCTGACT GCGGACAATA TAGTCCGAGT ACATGTGCAA TTTCATCTCA	3180
TAATCTTCCA GAATCTTTC TGTTCGCTTG ATATTGTCAT AGACAGCCTG ACGACTGACA	3240
CCGAACTCCT CGGCAATTTC AGCAAGGCTG TAATCATCAG CGTAGTAGAG CTCGATATAA	3300
TTCAATTTGCT TATCTGTCAA AAGCGCCGCA TAAATTCAA AGAGCGCATT CATAAGATTG	3360
GTTTTTTCGA TTTCCATAAC TTTTATTATA CCAAAAATTA GCCTAATCTA CCACACTAGG	3420
AAGCCGATCC AAGAAGATAG ATAGCTAAAT TTGAAAAAGA CATGAGCCTA GCCCCAAGTA	3480
ATTTCGAATT GATAGCTGGC AAAGGGATGT CCCTCTTGAT TTTGTAGTTG ATAATCTAGT	3540
TCAATCTTTT GCCTATCAAC TTGATAATGG CTCGTTTGA TGATAAACTC CTGCATGCCC	3600
ATAGGTGTAG GAATATAGGC TAAACTATCG CTATCCTTTA GAAAGCGCAT AATGGTCTTG	3660
GGATTAGAAA ATCGGCTCAT CACAAGTTC TGAACATGAA ATTTAATCAC TACTTTTCC	3720
TTTTCCTCAT TATAGAAAAG CAGGTAGCTA TAATCTCCTT TTTTCATGCAC TTCCACATCA	3780
TAAAGCTGGT CAATCACTTC CAACTGCTCA TCAAACTGAA TCGTATTTTC CATCCGAATC	3840
TTACATCAG GCCCTCTTTC TTGTCTCTTG TCCTACTATT TTACCAAAAA GAGCAGGATT	3900
TTGCTATAAT GGTCAATGA ACGAAAAAGT ATTCGGTGAC CCTGTTTACA ACTACATCCA	3960
TGTCAATAAT CAAATCATCT ATGACTTGAT TAATACAAA GAATTTTTCAGC GTTTGCGCCG	4020
GATCAAAACA CTGGGAACCT CCAGTTATAC CTTCCACGGT GGAGAACACA GTCGCTTCTC	4080
TCACTGTCTA GGAGTCTATG AAATTCACG ACGCATCACA GAGATTTTCG AAGAAAAATA	4140
TCCTGAGGAA TGGAATCTCT CCGAGTCTCT CTTGACCATG ACCGCTGCTC TCCTACACGA	4200
CCTTGGGCAT GGTGCCTACT CCCATACTTT TGAACATCTC TTTGATACAG ACCATGAAGC	4260

426

CATTACTCAG GAGATTATTC AAAATCCTGA GACAGAGATT CACCAAGTCC TGCTACAAGT	4320
GGCACCTGAT TTCCCAGAAA AGGTGGCCAG TGTCATTGAC CATACCTATC CTAATAAGCA	4380
GGTCGTGCAG CTCATTCTTA GTCAGATTGA CGCAGATCGC ATGGACTATC TCTTGCGCGA	4440
CTCCTATTTT ACAGGAGCAT CCTATGGGGA ATTTGACCTG ACTCGAATCC TCCGAGTCAT	4500
TCGTCCTATC GAAAAATGGTA TCGCCTTTCA GCGCAATGGC ATGCACGCCA TCGAAGACTA	4560
CGTCCTCAGT CGCTACCAGA TGTACATGCA GGTATTATTC CACCCCGCAA CACGCGCCAT	4620
GGAAGTTCTC CTACAGAATC TTCTCAAACG CGCCAAGGAA CTCTATCCTG AGGACAAGGA	4680
TTTCTTTGCC CGAACTTCTC CACACCTCCT GCCTTTCTTC GAAAAAATG TGACCTTGAC	4740
TGACTATCTG GCTCTGGATG ATGGCGTGAT GAATACCTAC TTCCAGCTTT GGATGACCAG	4800
TCCTGACAAG ATTCTTGCAG ATTTATCGCA TCGCTTTGTC AACCGCAAGG TCTTTAAATC	4860
CATTACCTTT TCACAAGAGG ACCAAGATCA ACTTACTAGC ATGAGAAAAT TGGTTGAGGA	4920
TATCGGCTTT GATCCCGACT ACTACACTGC CATTCATAAG AACTTTGACC TCCCTTATGA	4980
TATCTATCGT CCCGAATCTG AAAACCCACG GACACAGATT GAGATTTTAC AAAAAATGG	5040
AGAACTGGCC GAACTCTCTA GCCTGTCTCC TATCGTCCAA TCCCTTGCTG GCAGTCGCCA	5100
CGGAGATAAT CGCTTTTATT TTCCAAAAGA AATGTTGGAC CAAAACAGCA TCTTTGCAAG	5160
CATTACCCAG CAATTTTAC ACTTGATTGA GAACGATCAT TTTACCCAA ATAAAACTA	5220
GAAGAGGAAA TTTATGAGTA TTAAACTAAT TGCCGTTGAT ATCGACGGAA CCCTTGTCOA	5280
CAGCCAAAAG GAAATCACTC CTGAAGTTTT TTCTGCCATC CAAGATGCCA AAGAAGCTGG	5340
TGTCAAAGTC GTGATTGCAA CTGGCCGCCC TATCGCAGGC GTTGCCAAAC TTCTAGACGA	5400
CTTGCAAGTG AGAGACGAGG GGGACTATGT GGTAACCTTC AACGGTGCCC TTGTCCAAGA	5460
AACTGCTACA GGACATGAGA TTATCAGCGA ATCCTTGACT TATGAGGATT ATCTAGATAT	5520
GGAAATCCCTC AGTCGCAAGC TCGGTGTCCA CATGCATGCC ATTACCAAGG ACGGTATCTA	5580
TACTGCAAAT CGCAATATCG GAAAATACAC TGTACACGAA TCAACCCTCG TCAGCATGCC	5640
TATCTTCTAC CGTACCCCTG AAGAAATGGC TGGCAAAGAA ATGTGTTAAAT GTATGTTTAT	5700
CGATGAACCA GAAATTCTCG ATGCTGCGAT TGAAAAAATT CCAGCAGAAAT TTTACGAGCG	5760
CTACTCCATC AACAAATCTG CTCCTTTCTA CCTCGAACTC CTTAAAAAGA ATGTAGACAA	5820
GGGTTCAGCC ATTACTCACT TGGCTGAAAA ACTCGGATTG ACCAAAGATG AAACCATGGC	5880
AATCGGTGAT GAAGAAAATG ACCGTGCCAT GCTGGAAGTC GTTGGAACC CCGTTGTCAT	5940
GGAAAATGGA AATCCAGAAA TCAAAAAAAT CGCCAAATAC ATCACCAGAA CAAATGACGA	6000
ATCCGGCGTT GCCCATGCCA TCCGAACATG GGTACTGTAA AAGTATCATT TTTCAATAAG	6060

427

AATTGATTAG CAATAAAATC CAATGAATTT TTTTAGCAAA CTATTTAATT TAAAACAAA	6120
TAATCATAAT AGAGACACAA ATTCTGATTG TAACAATTTT TACCTAAACG AATTAGAATG	6180
TGGCCTTACT CCTGGGCAAC TCATACTCAT AGATTGGACT CAAAAACAG GGAGAAATTA	6240
TAATTTCCCA AGATATTTTA AATACTCTCT TCAAATTGAC CCTGAATCTA CACACAATCA	6300
ATTATACAAA TTAGGATACT TCACTAAAA TAAGACTTTA TCATATCTTA CAGTAGTAGA	6360
ATTAAAACT ATATTATCTA AACATAATTT AGCTACTTCT GGAAAAAAG CAGAATTAAT	6420
TACAAGAATA ATTAATAATG TTAACATTGA CAATTTAGAT ATTCCGTTTCG AATTTAACT	6480
AACAAAAGAA GCACAAAATC TTATTATCGA ACATAGTGAC TATATCAAAG CATACTATGA	6540
TAAAGACATA ACTATGGAAG ATTATTGTAA AGAAAAAAC AATATCTCTT TTAAGCAAC	6600
TTTTGGTGAT ATAAAATGGA GTCTCTTAA TAAACAAGCT CATAGGAATA CTGTATCAGG	6660
AGATTTTGGA TGCTTATCTA ACACACGAAA GGCTCAGGGA AGACATTTGG AACAGAAGG	6720
TAATATTTAA CATGCTTTAA TATATTACAT AGAATCTTTG ATAATTACTA TTTCAGGATT	6780
AGAAAACAAT TTTTCAGCCA CTGATTATCC AGTATATTAT CCCGATTCTGA TACCTGACTA	6840
CTCACTAAAA CATATTCAAA CATTAATGGA ATCATTATCT GATGACGATT ATGATTTTGC	6900
TTTTGATGAA GCATTATTTT GCTTCTCAAT TTTGAATGCA AATCATTTTT TATCTAAGGA	6960
AGATATTGAC TATTTAAGAG TTAATTTACC TCGTTCCACT GCTGAAGAAA TAAACAATTA	7020
CTTAAAGAAA TATGAATGTT ATAGTCTTTT AAATAATTTA GAACTTGACG ATTTTGAATA	7080
AATTGACTAT ACAAACATTT ATATACTCGA TATAGTCTCA ATTTTATCTG ATGATTGCCC	7140
AAATTTTCA ATAATAAAC GCATAATATT ATGGAGACAA TCCCCATAT TATGCGTTCT	7200
TTTAATATCA AAGACTTTTT GACAACTTC TTTGATATCT AATTACATGC CCCCTGCAGG	7260
AATCGAACCT GCAACTACTC CTTAGGAGGG AGTTGTTATA TCCATTGAAC TAAGGGACCT	7320
AGATAAAAC TCTGCTAAAT GAGCAGAGTT TTTAGTCGA ATTAACGACG GATTTCCTTG	7380
ATACGAGCTG CTTTACCTTG AAGAGCACGC AAGTAGTACA ATTTTCGCACG ACGTACTTTA	7440
CCGTAACGAA CAACTTCGAT TTTTCAACA CGTGGAGTGT GGATTGGGAA GATACGCTCA	7500
ACACCTACAC CGTTAGAGAT TTTACGAACT GTGTAGTTTT CTGAGATTCC AGCACCTTTA	7560
CGTGCGATAA CAACACG	7577

(2) INFORMATION FOR SEQ ID NO: 47:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 4945 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: double

428

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 47:

CCTCGCTGAT GATTGGTGCT GTTTTATTTG CTGGTCCAGC CTTGGCTGAA GAAACTGCAG	60
TTCTTGAAAA TAGCGGAnCT AATACAGAGC TTGTTTCAGG AGAGAGTGAG CATTGACCA	120
ATGAAGCTGA TAAGCAGAAT GAAGGGGAAC ATGCTAGAGA AAACAAGCTA GAAAAGGCAG	180
AAGGAGTAGC GATAGCATCT GAAACTGCTT CGCCAGCAAG CAATGAAGCT GCAACTACTG	240
AAACTGCAGA AGCAGCTAGC GCAGCTAAAC CAGAGGAAAA AGCAAGTGAG GTGGTTGCAG	300
AAACACCATC TGCAGAAGCA AAACCTAAGT CTGACAAGGA AACAGAAGCA AAGCCCGAAG	360
CAACTAACCA AGGGGATGAG TCTAAACCAG CAGCAGAAGC TAATAAGACT GAAAAAGAAG	420
TCCAGCCAGA TGTCCCTAAA AATACAGAAA AAACATTAAA ACCAAAGGAA ATCAAATTTA	480
ATTCTTGGA AGAATTGTTA AAATGGGAAC CAGGTGCTCG TGAAGATGAT GCTATTAACC	540
GCGGATCTGT TGTCCCTCGCT TCACGTCGGA CAGGTCATTT AGTCAATGAA AAAGCTAGCA	600
AGGAAGCAAA AGTTCAAGCC TTATCAAACA CCAATTCTAA AGCAAAAGAC CATGCTTCTG	660
TTGGTGGAGA AGAGTTCAAG GCCTATGCTT TTGACTATTG GCAATATCTA GATTCAATGG	720
TCTTCTGGA AGGTCTCGTA CCAACTCCTG ACGTTATTGA TGCAGGTCAC CGTAACGGGG	780
TTCTCTGATA CGGTACACTC TTCTTCAACT GGTCTAATAG TATTGCAGAT CAAGAAAGAT	840
TTGCTGAAGC TTTGAAGCAA GACGCAGATG GTAGCTTCCC AATTGCCCGT AAATTGGTAG	900
ACATGGCCAA GTATTATGGC TATGATGGCT ATTTTCATCA CCAAGAAACA ACTGGAGATT	960
TGGTTAAACC TCTTGGAGAA AAGATGCGCC AGTTTATGCT CTATAGCAAG GAATATGCTG	1020
CTAAGGTAAG CCATCCAATC AAGTATTCTT GGTACGATGC CATGACCTAT AACTATGGAC	1080
GTTATCATCA AGATGGTTTG GGAGAATACA ACTACCAATT CATGCAACCA GAAGGAGATA	1140
AGGTTCGGGC AGATAACTTC TTTGCTAACT TTAACITGGA TAAGGCTAAA AATGATTACA	1200
CTATTGCAAC TGCCAACCTG ATTGGTCGTA ATCCTTATGA TGTATTGCA GGTTTGGAAT	1260
TGCAACAGGG TGGTTCCTAC AAGACAAAGG TTAAGTGGAA TGACATTTTA GACGAAAATG	1320
GGAAATGCG CCTTCTCTT GGTTTATTTG CCCCAGATAC CATTACAAGT TTAGGAAAAA	1380
CTGGTGAAGA TTATCATAAA AATGAAGATA TCTTCTTTAC AGGTTATCAA GGAGACCCTA	1440
CTGGCCAAAA ACCAGGTGAC AAAGATTGGT ATGGTATTGC TAACCTAGTT GCGGACCGTA	1500
CGCCAGCGGT AGGTAATACT TTTACTACTT CTTTAAATAC AGGTCATGGT AAAAAATGGT	1560
TCGTAGATGG TAAGGTTTCT AAGGATTCTG AGTGAATTA TCGTTCAGTA TCAGGTGTTT	1620

429

TTCCAACATG GCGCTGGTGG CAGACTTCAA CAGGGGAAAA ACTTCGTGCA GAATATGATT	1680
TTACAGATGC CTATAATGGC GGAAATTCCC TTAAATTCTC TGGTGATGTA GCCGGTAAGA	1740
CAGATCAGGA TGTGAGACTT TATTCTACTA AGTTAGAAGT AACTGAGAAG ACCAAACTTC	1800
GTGTTGCCCA CAAGGGAGGA AAAGGTTCTA AAGTTTATAT GGCATTCTCT ACAACTCCAG	1860
ACTACAAATT CGATGATGCA GATGCATGGA AAGAGCTAAC CCTTTCTGAC AACTGGACAA	1920
ATGAAGAATT TGATCTTAGC TCACTAGCGG GTAAAACCAT CTATGCAGTC AAATATTTT	1980
TCGAGCATGA AGGTGCTGTA AAAGATTATC AGTTTAACCT AGGACAATTA ACTATCTCGG	2040
ACAATCACCA AGAGCCACAA TCGCCGACAA GCTTTTCTGT AGTGAAACAA TCTCTTAAAA	2100
ATGCCCAAGA AGCGGAAGCA GTTGTGCAAT TTAAAGGCAA CAAGGATGCA GATTCTCTATG	2160
AAGTTTATGA AAAAGATGGA GACAGCTGGA AATTACTAAC TGGCTCATCT TCTACAACCTA	2220
TTTATCTACC AAAAGTTAGC CGCTCAGCAA GTGCTCAGGG TACAACTCAA GAACTGAAGG	2280
TTGTAGCAGT CGGTAAAAAT GGAGTTCGTT CAGAAGCTGC AACCACAACC TTTGATTGGG	2340
GTATGACTGT AAAAGATACC AGCCTACCAA AACCCTAGC TGAAAATATC GTTCCAGGTG	2400
CAACAGTTAT TGATAGTACT TTCCCTAAGA CTGAAGGTGG AGAAGGTATT GAAGGTATGT	2460
TGAACGGTAC CATTACTAGC TTGTCTAGATA AATGGTCTTC AGCTCAGTTG AGTGGTAGTG	2520
TGGATATTCG TTTGACCAAG CCACGTACCG TTGTTAGATG GGTCTGGAT CATGCACGAG	2580
CTGGTGGTGA GTCTGTTAAC GATGGCTTGA TGAACACTAA AGACTTTGAC CTTTATTATA	2640
AAGATGCAGA TGGTGAGTGG AAGCTAGCTA AGGAAGTCCG TGGTAACAAA GCACACGTGA	2700
CAGATATCAC TCTTGATAAA CCAATCACTG CTCAAGACTG GCGCTTGAAT GTTGTCACTT	2760
CTGACAATGG AACTCCATGG AAGGCTATTC GTATCTATAA CTGGAAAATG TATGAAAAGC	2820
TTGATACTGA GAGTGTCAT ATTCGGATGG CCAAGGCTGC AGCCCGTTCT CTAGGCAATA	2880
ACAAGGTACA AGTTGGCTTT GCAGATGTAC CGGCTGGAGC AACTATTACC GTTTATGATA	2940
ATCCAAATTC TCAAACCTCG CTCGCAACCT TGAAGAGCGA AGTTGGAGGA GACCTAGCAA	3000
GTGCACCAT TGGATTTGACA AATCAATCTG GTCTTCTTTA TTATCGTACC CAGTTGCCAG	3060
GCAAGGAAAT TAGTAATGTC CTAGCAGTTT CCGTTCCAAA AGATGACAGA AGAATCAAGT	3120
CAGTCAGCCT AGAAACAGGA CCTAAGAAAA CAAGCTACGC CGAAGGGGAG GATTGGACC	3180
TTAGAGGTGG TGTCTTCGA GTTCAGTATG AAGGAGGAAC TGAGGACGAA CTCATTCCGC	3240
TAACCTCACGC AGGTGTATCA GTATCAGGTT TTGATACGCA TCATAAGGGA GAACAGAATC	3300
TTACTCTCCA ATATTTGGGA CAACCGTAA ATGCTAATTT GTCAGTGACT GTCAGTGCC	3360

430

AAGACGAAGC AAGTCCGAAA ACTATTTTGG GAATTGAAGT AAGTCAGGAA CCGAAAAAAG	3420
ATTACCTAGT TGGTGATAGC TTAGACTTGT CTGAAGGACG CTTTGCAGTG GCTTATAGCA	3480
ATGACACCAT GGAAGAACAT TCCTTTACTG ATGAGGGAGT TGAAATTTCT GGTACGATG	3540
CTCAAAAGAC TGGTCGTCAA ACCTTGACGC TTCATTACCA AGGCCATGAA GTTAGCTTTG	3600
ATGTTTGGT ATCTCCAAAA GCAGCATTGA ACGATGAGTA CCTCAAACAA AAATTAGCAG	3660
AAGTTGAAGC TGCTAAGAAC AAGGTGGTCT ATAACTTTGC TTCATCAGAA GTAAAAGAAG	3720
CCTTCTTGAA AGCAATTGAA GCGGCCGAAC AAGTGTGAA AGACCATGAA ACTAGCACCC	3780
AAGATCAAGT CAATGACCGA CTTAATAAAT TGACAGAAGC TCATAAAGCT CTGAATGGTC	3840
AAGAGAAAT TACGGAAGAA AAGACAGAGC TTGATCGCTT AACAGGTGAG GTTCAAGAAC	3900
TCTTGCTGC CAAACCAAAC CATCCTTCAG GTTCTGCCCT AGCTCCGCTT CTTGAGAAAA	3960
ACAAGGCCCT GGTGAAAAA GTAGATTGA GTCCAGAAGA GCTTACAACA GCGAAACAGA	4020
GTCTAAAAGA TCTGGTTGCT TTATTGAAAG AAGACAAGCC AGCAGTCTT TCTGATAGTA	4080
AAACAGGTGT TGAAGTACAC TTCTCAAATA AAGAGAAGAC TGTCATCAAG GGTTTGAAAG	4140
TAGAGCGTGT TCAAGCAAGT CCTGAAGAGA AGAAATACTT TGCTGGAGAA GATGCTCATG	4200
TCTTTGAAAT AGAAGGTTTG GATGAAAAAG GTCAAGATGT TGATCTCTCT TATGCTTCTA	4260
TTGTGAAAAT CCAATTGAA AAAGATAAGA AAGTTAAGAA AGTATTTTTC TTACCTGAAG	4320
GCAAAGAGGC AGTAGAATTG GCTTTTGAAC AAACGGATAG TCATGTTATC TTTACAGCAC	4380
CTCACTTTAC TCATTATGCC TTTGTTTATG AATCTGCTGA AAAACCACAA CCTGCTAAAC	4440
CAGCACCACA AAACACAGTC CTTCCAAAAC CTACTTATCA ACCGACTTCT GATCAACAAA	4500
AGGCTCCTAA ATTGAAGTT CAAGAGGAAA AGGTTGCCTT TCATCGTCAA GAGCATGAAA	4560
ATACTGAGAT GCTAGTTGGG GAACAACGAG TCATCATACA GGGACGAGAT GGAAGTTTAA	4620
GACATGTCTT TGAAGTTGAT GAAAACGGTC AGCGTCGTCT TCGTTCAACA GAAGTCATCC	4680
AAGAAGCGAT TCCAGAAATT GTTGAAATTG GAACAAAAGT AAAAACAGTA CCAGCAGTAG	4740
TAGCTACACA GGAAAAACCA GCTCAAAATA CAGCAGTTAA ATCAGAAGAA GCAAGCAAAC	4800
AATTGCCAAA TACAGGAACA GCTGATGCTA ATGAAGCCCT AATAGCAGGC TTAGCCAGCC	4860
TTGGTCTTGC TAGTTTAGCC TTGACCTTGA GACGAAAAAG AGAAGATAAA GATTAAATAT	4920
CGAAAAATCT TGTGAAATCT TTCCG	4945

(2) INFORMATION FOR SEQ ID NO: 48:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 25002 base pairs
 - (B) TYPE: nucleic acid

431

(C) STRANDEDNESS: double
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 48:

GACAACTCAA GTAGCTTTTT CTTATTTTGA AAAAGGAGAT CAGAGTTTAA CTATGTCAGA	60
AAAATCACAA TGGGGGTCGA AACTTGGT TTATTCTAGCA TCTGCTGGCT GGCCATCGGG	120
CTTGGTTCCG TTTGGAAGTT TCCCTACATG ACTGCTGCTA ATGGCGGTGG AGGCTTTTTA	180
CTAATCTTTC TCATTTCAC TATTTTAATC GGTTCCTC TCCTGCTGGC TGAGTTTGCC	240
CTTGGCCGTA GTGCTGGCGT TTCCGCTATC AAAACCTTTG GAAACTGGG CAAGAATAAC	300
AAGTACAACT TTATCGGTG GATTGGCGCC TTGCCCCTCT TTATCCTCTT ATCTTTTAC	360
AGTGTATATCG GAGGATGGAT TCTAGTCTAT CTAGGTATTG AGTTTGGGAA ATTGTTCCAA	420
CTTGGTGGAA CGGGTGATTA TGCTCAGTTA TTTACTTCAA TCATTTCAAA TCCAGCCATT	480
GCCCTAGGAG CTCAAGCGGC CTTTATCCTA TTGAATATCT TCATGTATC ACGTGGGGTT	540
CAAAAAGGGA TTGAAAGAGC TTCGAAAGTC ATGATGCCCC TGCTCTTTAT CGTCTTTGTT	600
TTTATCATCG GTCGCTCTCT CAGTTTGCCA AATGCCATGG AAGGGGTCTT TTACTTCCTC	660
AAACCAGACT TTTCAAACT GACTAGCACT GGTCTCCTCT ATGCTCTGGG ACAATCTTTC	720
TTTGCCCTCT CACTAGGGGT TACAGTCATG TTGACCTATG CTTCTTACTT AGACAAGAAA	780
ACCAATCTAG TCCAGTCAGG AATCTCCATC GTAGCCATGA ATATCTCGAT ATCCATCATG	840
GCAGGTCTAG CCATTTTCCA AGCTCGATCC CCCTTCAATA TCCAGTCTGA AGGGGGACCC	900
AGCCTGCTCT TTATCGTCTT GCCTCAACTC TTTGACAAGA TGCCTTTTGG AACCATTTTC	960
TACGTCTCTT TCCTCTTGCT CTTCTTTTTT GCGACAGTCA CTTTCTCTGT CGTGATGCTG	1020
GAAATCAATG TAGACAATAT CACCAACCAG GATAACAGCA AACGTGCCAA ATGGAGTGT	1080
ATTTTAGGAA TTTTGACCTT TGTCTTTGGC ATTCCTTCAG CCCTATCTTA CGGTGTCATG	1140
GCGGATGTTT ACATTTTGG TAAGACCTTC TTTGACGCTA TGGACTTCTT GGTTCCTCAAT	1200
CTCCTCATGC CATTTGGAGC TCTCTACCTT TCACTTTTTA CAGGCTATAT CTTTAAAAAG	1260
GCTCTTGCAA TGGAGGAAC CCATCTCGAT GAAAGAGCAT GGAAACAAGG ACTGTTCCAA	1320
GTCTGGCTCT TCCTTCTTCG TTTCTTCGTT TCGTCATTCC AATCATCATC ATTGTGGTCT	1380
TCATTGCCCA ATTTATGTAA TCAAAAAGGA CTTGAGTAGT GAACTCAGGC CCTTCTTTT	1440
TATGGATGGC TAACAATCAA TTCCAAACCT TGCCCTTCCA GAGTCCAAGC TTCAACATCA	1500
CTTGGTAGGA TAAAGTGGCT GCCTTTTGA ATTGATAAT TTTCCCGTC AACAGTAGC	1560

432

TGACCTTGAC CAGCCAAGAC ACTCAATAAG CTGTAGTCAG CTGTCTTTTC AAAGTCAACT	1620
TTTCCAGTAA TTTCCTCACTT GTAAACTGCG AAGAAATCAT TAGATACAAG GAGAGTGGA	1680
CGCAAATCAT CTGCTTTAAC AGTTACAGGA CGGCTATTTG CTGGCTCACC AATGTTCAAG	1740
ACATCGATGG ATTTTTC AAG ATGAAGTTCA CGCAAGTTGC CTTTGTTCATC CTTGCGGTCA	1800
AAGTCATAGA CGCGATAGGT CGTATCGCTA GACTGCTGGG TTTC AAGGAT TAAGATACCC	1860
GCCCCGATAG CGTGCAATAGT CCCGCTTGGT ACATAGAAGA AATCTCCAGC CTTAACAGGG	1920
ACTTTGGTCA ACAAGTCATC CCAGTTCTTG TCCTCGATTT GCTGGCGGAG TTCTTCTTTT	1980
GACTTGGCAT TGTGACCGTA GATAATCTCT GAACCTTCAT CCGCTGCGAT AATGTACCAG	2040
CATTCTGTTT TTCCGAGTTC GCCTTCATGC TCGACTCCAT AAGCATCGTC TGGGTGAACT	2100
TGGACACTGA GCCAGTCGTT GGCATCGAGG ATCTTGGTCA AAAGTGGAAA TACAGGTCT	2160
GGACGATTGC CAAATAATTC ACGGTGTTC GCATACAAAG TAGCAAGATC TGTTCCTCG	2220
TAAAGACCAT TGGCAACTTT AGAGACTCCA TTTGGATGGG CTGAGATGGC CCAATATCT	2280
CCGATTTTTT CACTTGGGAT GTCGTAGCCA AACTCATCAC GTAGCTTGGC TCCACCCAG	2340
ATTTTCTCTT GCATAACTGA TTGTAAAAAT AATGGTTCIG ACATGTCGAT CTCTGTCTG	2400
ATTTTCTCTC CCTCATTATA GCAAAAAAAG AGTTCGAATT GAACTCTTTT TTACATCTTA	2460
TAAAGCAGGG AGAAGATTTT ATAAAAATAG TAAACAAATG TGCTCTACCC GATGCTTGCA	2520
CCATGCTAT AAATGACATC CTTGTACCAA TAGAAGGACT TCTTCTTGCT ACGTTTGAGA	2580
GCTCCGTTTC CTACATTATC TCGATCTACA TAGATAAAGC CATAGCGCTT ATTCATTTCC	2640
CCTGTGCCAG CTGAAACCGG ATCGATACAG CCCCAAGTCG TATAACCAAG CAAGTCAACC	2700
CCGTCTGGT AAATGGCATC TCGCATGGCC TTGATGTGGG CCTCTAAGTA AGTAATCCGA	2760
TAGTCATCTG CTACATAACC ATTCTCATCC GGTGTATCCA TAGCACCGAG TCCATTTTCT	2820
ACGATAATAC TAAACTAAAA TCAAAAAGCA TTATATAATA GTGATATGAA ATCAACTAAA	2880
GAAGAAATCC AAACCATCAA AACACTTTTA AAAGACTCTC GTACAGCTAA ATATCATAPA	2940
CGCCTTCAAA TCGTTCTATA GTAAAATGAA ATAAGAACAG TACAAATCGA TCAGGACAGT	3000
CAAATCGATT TCTAACAATG TTTTAGAAGT AGGGGTGTAC TATTCTAGTT TCAATCTACT	3060
ATATTTCTGTC TGATGGGCAA ATCTTATAAA GAGATTATAG AACTTTTATA GTAGTTTGAA	3120
ATAAGATGTG AACAACTCTA TCAGGAAAGT CAAATTAATT TATAGAAATA TTTTAGCAGC	3180
CAAGGTGTAC TGTATAGAT TCAATACACT ATAGACTGTA ATCAAACAAC GATTTGGCGA	3240
AATGTAAAAA AATATGAGGA GTTCGGACTC GACTCTCTCC TTCAAGAAAC ACGTGGTGGT	3300
CGTAACCATG CATATATGAC AGTTGAGGAA GAGAAAGCCT TTCTTGCCCG CCATTGAAG	3360

433

GCTACAGAGG CAGGAGAATT TGTTACAATT GATGCCTTAT TTCAGGCTTA TAAAAAGGAG	3420
TTAGGTCGTT CCTACACACG TGATGCCTTC TATCAACTGT TGAAGCGCCA TGGTTGGCGA	3480
AATATTACGC CACGTCCAGA ACATCCTAAG AAAGCAGACG CTCAAACCAT TGTTCGTCT	3540
AAAAATAAAA TCTCAATCCA AGAAGGCAAG AAAGCGTTT AAATATAGTA GACGTTTTCG	3600
TAAGGTTTGC TTGATGTACC AAGCTGAAGC TGGTTTCGGT AGAATCAGTA AACTGGGATC	3660
TTGTTGGGCT CCAATAGGAG TAGGTCCACA TATCCATAGT CACTATATAC GAGAATTTCG	3720
CTATTGTTAT GGAGCTGTG ATGCCTATAC AGGCGAATCA TTTTCTTAA TAGCTGGTAG	3780
ATGTAATACT GAGTGGATGA ACGCCTTTT AGAAGAGCTT TCACAAGCTT ATCCTTTTAC	3840
TCGTTATGGA CAATGCTATA TGGCATAAAT CAAGTACCTT AAAGATTCCG ACTAATATTG	3900
GTTTTCGATT TATTCCTCCA TACACACCAG AGATGAACCC CATTGAACAA GTGTGGAAAG	3960
AGATTCGTAA ACGTGGATT T AAGAATAAAG CCTTTCGAAT TTTGGAAGAT GTCATGAATC	4020
AACTCCAAGA TGTACATAAA GGATTGGAGA AGGAGGTGAT AAAGTCCATC GTTAATCGGA	4080
GATGGACTAG AATGCTTTTT GAAAGCAGAT GAGTATTATA TGCAATTTCT TTATATAAAA	4140
AGACCGGATT GCTCCGATCT TTCAATAGTT CATATTCTCA ATTTCTATTT TAAAAATAGC	4200
TAAGGTTAAC GTCAAATGAC TACGCGACCT ATTCATACG ATAAAAATCA AGCACTAGAC	4260
CAGCAGGTCC TTGAACATAA AAGGACTCTG TTCCCAATC GGTACAGTT GGTCCGTGTA	4320
AAACCTTTAT ACAAAGCTCG TTCAACCGTT TGTACTTCTG GTCTACATCC TCAACCTCGA	4380
TATGAATAAT GATTCTGAC TGAAGTTTT CCAAAGGAAC CAAATGATTT TGTGACAACA	4440
TAAGGCAGTG ACTACCAATC GTAAACTGAG CAAAACCATC ATTAGCATAA TCTGCCTTTT	4500
TATCCAAGAT ATGCTCCAAG TCAGCACAGA CTTGGGGAAC ATTTGAAACG ATAATATCTA	4560
ATTGATTTAA ATTCAATTAC TCTCCTCCAT AAAAAGACCG GATTGCTCCG ATCTTTTAAA	4620
GTTCTGCTCT ATGAAAATCA AAGAATAAAG TCTACAAGTT TCATATTTGA TTTTCGGCGA	4680
GAGGAATTAT TTAATTGCGC GTGATTGCAA TCCTTCTTCT TCCAAGAAGA GACGGAATGG	4740
TACGAGTTCT TCTGCTTCGT ATTTTTCCTT GAAGGCTTTG ATAGCTTCTT CTGAGTGAAG	4800
TTTTGGATCC AATTCAAGTA CTTCTACTGG AAGTGGACGG TGTGAGTGA TGCAGCATC	4860
GATGACAACA GTTTTACCTT CTTTGTTCAA TTTAACAGCT TCTGCAACAA CTGCATCGAT	4920
GTCTTCGATA CGGTCAACTG TGAATCCAAC AGCTCCTTGA GCTTCCGCAA TTTTAGCGTA	4980
GTCAGCGTTT GTGAAGTCTA CACCAAACAA GTGTTTGTGTT GTATCTTCGT ATTTGTCTTT	5040
GATGAAGCCG TACTCAGCAT TTGAGAAGAC AAGGTTGATA ACTGGAAGGT CGTATTGAAC	5100

434

GTTTGTGATA ACGTCTGGGT AGCACATGTT GAATGCTCCG TCACCCATGA TGTTCATAC	5160
TTGGCGATCT GGATTGTCTT TCTTAGCAGC GATACCACCA GGAAGGCCAA TACCCATTGT	5220
CGCAAAGAGT GGAGATGTAC GCCACATGTT CTTAGGTGTC ATGTGAAGGT GACGAGTAGA	5280
TGTTTGAGTA GTGTTACCTA CGTCGATTGA GTAGATAGCG TCTTGATCAG CATGTTTGT	5340
GATTGCATTG TAAACTTGAT ACAATTGCAA TTCACCCCTCA GTTTTACCTT CGAGTTTGT	5400
CATGTAATCA CGCCAGTTTT GGTGTGTTCTT AACGTTTGCA CGCCACCATG GAGTTGATTC	5460
AACTGGGTTT ACTTTGTCAA GGATAGCTTT AGCTGCTTGA CCAGCATCAC CAAGGATTGA	5520
AGCGTCAAGG GCATGACGTT TACCAAGTTT GTAAGGGTCG ATATCGACTT GGATGAATTT	5580
TTCAGTGTTT TTGAATGCTT CGTAAACTTC AGCAAATGGG AAGTTTGAAC CAAGGAAAAG	5640
AACTGTGTCT GCTTCAAAGA CCACTTCGTT GGCTGGTTTC CAACCAACAC GGTAAAGCAGA	5700
ACCTGTCAA CCTTCATAGT TCCATTGAA AGCTTCAAAG TTTTACCAG TTGTGATGAT	5760
TGGTGCTTTG ATTTTACGTG ACAATTCAGT AATCACTTCA CCAGCTTTAA CACCACCAA	5820
TCCAGCATAG ATAACGGGC GTTCAGCATT GTTCAAGATT TCAACAGCTT TGTCGATTT	5880
AACTTCGTTT AAAGCAGGAG CGATGAATGA GCGTTCGTAT GAACCTGAAC CGTAGTATGA	5940
GTTTTCATCG ATTTCTTGA AACCGAAGTT TACTGGAATT TCAACAACAG CTGGACCTTT	6000
TTTAGAAACT GCAGCACGGC AGGCTTCGTC AATTACTTTT GGCAATTGCT CAGCGTAAGC	6060
TACACGTTTG TTGTAAACAG CGATACCGTT GTACATTGGG TTTTGGTTAA GCTCTTGGA	6120
AGCATCCATG TTCAATTCGT TAACTGGACG TGATCCAAGG ATCGCTAGGA ATGGAGTGTT	6180
ATCCATAGCT GCATCGTAAA CACCGTTAAT CAAGTGAGTC GCACCTGGAC CACCTGAACC	6240
AACTGCAACC CCGATTGAGC CGCCGAATTT AGCTTGCTA ACCGCTGCAA GAGCACCTGT	6300
CTCTTCGTGG CGAACTTGTA AGAAACGGAT ATCTTTGTCT TCAGCCAAAG CGTCCATCAA	6360
TGAGCTGAGT GTTCTGATG GGATACCGTA GATTGTATCT ACGCCCCATG TTTTCAATAC	6420
GTTAAGCATT GCTGCAGATG CAGTAATTTT CCCTTGAGTC ATAATGATAA CTCTCCTTCA	6480
ATTTTTTTAA ACTTGGAGAA TACGATTACA TAGAATTGGA AACGTTCTCC AAATTTTAC	6540
TATCCACTG TATCATATTT ATGCTGACTT TTCTAAAAAT CTGCTCAAAA CTCTCTATTC	6600
TCTATTCTAA TACAGTTTGT AAAGTTCTGT CATTTCTGTT TTATAACAAA GAAATCTAGT	6660
CATTACTTTT AGTCTATTTT ACTAAAATTT AACAGAAGGG AACTGGTCAG AACAGATACA	6720
GAACATAAGG CCATGGCTAG ACCTGCCAAT TCTGGGTGA GAGCCAGTCC AACACCTGAA	6780
AAGACTCCTG CTGCAATCGG AATTCCGACA ACATTGTAGA TAAAAGCCCA GAAAAGATTG	6840
AGTAGAATTC GATGAAAGGT TTTCTTACTC ATATCAAAGG CACGAACCAC TCCTAAAAGA	6900

435

TTATTGGTTG TCAACACCAA ATCTGCTGAC TCGATGGCGA TATCTGTTCC AGCTCCCATA	6960
GCAATCCCCA CATCTGCTAC ACTAAGGGCA CGAGCGTCAT TGATACCGTC CCCAACAAAG	7020
GCTACTTTCC CTGACTGTTG CAGTTTATGG ATTCATGGG CTTTTCTTC TGGCAAGACG	7080
CCTGCAATGA CCTCTTCAAT TCCGATTGA TCTGCAATAG CACGCGCCAC ACCAGCATTG	7140
TCTCCTGTCA GCATGACTGT TCGGAGACCA CGTTTTTTTA GCTGACTGAT GGCTAGCTTA	7200
GCATTTTCCT TAGGAATATC TTGCAAAGCA AGCAAGCCTT TGATTTTCATT GTCAACAGCT	7260
AAGAACACAA CTGTCTTAGC TTCTTTTCT AGTTCCTCTA GTTTATCTTG ATAAGTATTA	7320
GAAATATCCA TGCCATCCAG CATTTTAGCA TTTCCAAGTA AAACCTGTTT TCCATTGATT	7380
CGCCCTGAAA CACCTTTCCC GTGCAAGGAC TGAAAATTTT CAACAGTTTG AAACCAAGT	7440
CCAGCTTCAC TCGCTCGCTT AACGATAGCC TCAGCCAGTG GGTGTTGAGA AGCATCTTCC	7500
AAGGAGGCTG CCAACCCAAA CACTTCTACT TCGTCGCCGA TGACATCTGT TACCACAGGT	7560
TTCCCTTCGG TCAAAGTCCC GGTCTTATCA AAGACAAGGG TTGAACTTT CTGGATTTC	7620
TGTAAGACAG TTCCATTTT GAGGAGAACC CCCATCTTGG CACTACGTCC TGTCCTCCAC	7680
ATAAGGCTG TCGGTGTTGC AAGTCCCAAG GCACAAGGAC AGGCGATAAT CAAAACCGCC	7740
ACTCCGTAGA GAAGAGAGGA CACAAAGCTA GCTCCAAGCA CAACCACACT ATCCCTGAGC	7800
AAGACGAACC AAACCCAAAA GGTCTATGAT CCTAAAAA GA CAACTACTGG GACAAAAATC	7860
CCTGAAATCT TATCCGTCAA GTCCTGAATC GCGGCACGAC TTGTCTGAGC TTTCTTCACA	7920
AAATCCACAA TCTGAGCCAA AACAGTCTCT GAGCCAACCT TTTCTGCTCT AAAGACAAGC	7980
GTTCCTACTAT GATTGATGGT TGAGCCAATG ACAGTATCTC CAACTGTCTT GTCCACAGGC	8040
AGACTCTCAC CTGTCACCAT GGATTCGTCA ATACTAGAGA CACCTTCTAC TACGACACCA	8100
TCAACAGCAA TCTTTTCACC GGGACGCACT CGAATCAGGT CGCCTACCTT GACTTGTTC	8160
AAAGGAACCT GGACATAACT ATCATCACTC AAGACTTCTG CGGTTTTAGC TTGCAAGTCC	8220
AGTAATTTCT CCACAGCTTG GGACGTATTT TTTCTCATTT TTTCTCATAA AACTGCTCCC	8280
AAAAGAACGA AAAAGAGGAT AAATCCAGCA CTTTCGAAGT AAACAGGGAG ACCAGCAAAG	8340
AGAGCAACTA GGCTATAGAA ATAAGCCACT AGAGTTCCCA GCGCAACCAA GGTATCCATG	8400
TTGGCATTGT GCTTTTAAAA ACTGGCCCAA GCACTCTGGA TATATGGCTT ACCTGCAACT	8460
AACATAATAG GCGTTGTGTC TAGAAAGGTT CCCCATGCA TGAATTGATG ACTAATGCTA	8520
CCTGTCAACA TCCAATCAT GAGAATCACA AGAGGCACAG TAAAGATACT AGTAATCCAA	8580
AAACGTTGCA GGAGAGATAG AGATTTTCGA GTCTTCTCAA CGACTGTATA GCTTCCCTTT	8640

436

TGCATCTTCA TGCCACAAGA AAATTCATGT CGCCCTAATT CTTGAGGCGT AAAACGAATG	8700
ACTTTCTCCT CATCTACGCC GATTGGTTCC AAGATACCTT CTTCTTCAA CAGAATTTCC	8760
TTATAACAGT TTGAAGGAGT AGCACGATGA AAGGTAATCT CAGCTGGAAT TCCCTTTTGA	8820
AGCTGGATAT GGGCTGGATG ATAGCCTTTT TCAGCTCGGA TACGGATTTT TTGAATGCCA	8880
TTTTCTAAGC TTGCTTTCAC AATTCTGTG ATAGTCTCCA CCTACTCTAC AATCATCTTG	8940
CCGTGCATCA TGTCATACC ACAAGCAAAG CCAAACCTCTC CAGCCTGTTC AGGCGTGATT	9000
TCCACTACAT ACTCTTCCCC CATTTGGCAGG TTCGCATGTA CACCAAAATC TGGAAAAACA	9060
ATTTGATCCA GACATGGTGA AGGATCCTTG CGGTCAAAGA CAATGCGTGC TGGCACTGAT	9120
TTCTTGAGGA CAATCAACTC AGGAGTATAG CCTCCCATGA CTCCACTCG AATCTCTTGG	9180
TATCCGTTTT TTTGCTGGGC TTTTGTCCA GATTTTTCAG GCTTTTGA AAACCAAAC	9240
AAGATAACG CGATAAGGGC AATACAAATA ATGGTTACAA TACTATTAA CATGACGTCT	9300
CCTTTACATA CAATTACATC TTACTTCTGT TACAGCACTT GATTTCTTCT CTGAAATCAC	9360
AGCTTCCAAG TCTTCCAAGT CAGTCTGAGT AAATTCACAT TCTACAATCA AGTCAGCCAA	9420
CAAATPCCTA ATCCTACGGG AACAAACCTT GTCTTTGATA TCTTGACAA GTAAATCCCG	9480
ACTTTGGTCT AGAGTTAAAA GGGCTGAATA AACAAAGGAC TTGCCTTCTT TTTTCCGAGT	9540
CAAACACTCT TTATCAACCA GACGAGCCAA AAGTGTCTGA ACCGTGGACT TGGACCAGTC	9600
AAACCGCTCT GCCAAAACCC TAATCAAATC TGTACTGGTC TGCTCCCCCT GCATCCAAAT	9660
AATCTTCATG ACCTGCCATT CTGCATCTGA AATCTGCATT ACCATACCTC CAAAATCTAC	9720
ATTTGTCAAT TACACTCATC AGTATACTCT TAAAACTAC ATTTGTCAAT TATAGAAATA	9780
ATATTTTCTT CGAAAAATAG AATTTTAATC ATTTGAAAA CGATTGTCAG TCAAATATTA	9840
CTATATAAAC AATAAAAATA TGCTATACTA AAGAAAAAG AAAACAACCA CTAGGGGTGC	9900
GTAAAGCTGA GATTAAACGAC TGTTAGATCC CTCTGACTCA ATCTAGGTAA TGCTAGCTGA	9960
TGGAAGTGGA AATGATAATG GGGACTAGCA GTCTTCTATT GCCTTTCTAA AACAGACTAG	10020
CTTGTTCTTA AGAATACAAA CTTCACTTGG TTGGGAGGTT TTAGATGACT TATTTACCCG	10080
TTGCTTTGAC CATTCAGGG ACTGACCCTA GTGGTGGTGC TGGCATTATG GCAGATTTAA	10140
AGTCATTCCA AGCGAGAGAT GTCTATGGAA TGGCTGTTGT AACCAGTCTT GTCGCTCAA	10200
ATACCAGAGG TGTCAGCTA ATCGAGCACG TTTCTCCTCA AATGTTGAAA GCCCAATTGG	10260
AGAGTGCTT TTCTGATATT CCACCTCAGG CTGTAAAAAC TGAATGTTG GCTACTACTG	10320
AAATCATGGA AATCATCCAA CCCTATCTTA AAAAAGTGA TTGTCCCTAT GTCCTTGATC	10380
CTGTTATGGT TGCTACAAGT GGAGATGCCT TGATTGACTC AAATGCTAGA GACTATCTCA	10440

AAACAAACTT	ACTACCTCTA	GCAACTATTA	TTACGCCAAA	TCTTCCTGAA	GCAGAAGAGA	10500
TTGTTGGTTT	TTCAATCCAT	GACCCCGAAG	ACATGCAGCG	TGCTGGTCGC	CTGATTTTAA	10560
AAGAATTTGG	TCCTCAGTCT	GTGGTTATCA	AAGGCGGACA	TCTCAAAGGT	GGTGCTAAAG	10620
ATTTCTCTT	TACCAAGAAT	GAACAATTG	TCTGGGAAAG	CCCACGAATT	CAAACCTGTC	10680
ACACCCATGG	TACTGGATGT	ACCTTTGCTG	CAGTGATTAC	TGCTGAACTA	GCCAAGGGCA	10740
AGAGTCTTTA	CCAGGCAGTT	GATAAGGCCA	AGGCCTTTAT	CACAAAAGCT	ATTCAAGATG	10800
CCCCCTCACT	CGGTCATGGT	TCTGGTCCAG	TCAACCATAC	AACCTTTTAA	GATTAAGAAA	10860
AAAAACTCTC	TAGTTCCAC	TTTAAGGGAA	TTAGAGAGTT	TTTATACTCT	TCGAAAATCT	10920
CTTCAAACCTA	CGTCAGCTTC	CATCTGCAGC	CTCAAAACAC	TGTTTGTGAGC	TGACTTCGTC	10980
AGTCTTATCT	AAAACCTCAA	GGCAGTACTT	TGAGCAACCT	GCGACTAGCT	TTCTAGTTTA	11040
CTCTTTGATT	TTCATTGAGT	ATTAATTAGG	AAAGAATGTT	ATGCAACTTT	TTTAAAAAGG	11100
CTTGCGTTT	TGCCTCAATA	TCTTCTGCTT	GCATCAAATC	ACGTACAACA	GCTACACCAG	11160
CTATGCCAGT	GCCATAAGC	TGATCAATAT	TCTCCGAAGT	CAAGCCTCCA	ATAGCAACTA	11220
CTGGAATGGC	AACCGTTTGG	CAAATGTGTT	TCAAGGTCGA	TATCAGAGTA	ATGGGCGCAT	11280
TTTCCTTGGT	GGTGGTTGGG	AAAATGGCTC	CTGTACCCAA	GTAATCTGCA	CCTGATTCTT	11340
CCGCTTCCAG	AGCTCTTTTA	ACCGTTTTAG	CGGTGACACC	GAGGATTTTT	TCAGGACCCA	11400
AGACTTTGCG	AGCTACCGAA	ACTGGTAATT	CATCATCTCC	GATATGCAGA	CCTGCTGCAT	11460
CAACCGCAAG	ACAAACATCC	AACCGATCAT	CGATTATCAA	GGGTACCTGA	TAAGCATCTG	11520
TTATTTCTCT	GACTTGTTTT	GCCAGTTGAT	AATATTGATT	GGTTGTGAGA	TTTTTTCTCT	11580
GCAATTGGAC	TATGGTAACC	CCTGAACGGC	AGGCCGTCTC	AACCTTTGCA	AGAAAGCTTT	11640
CCACGGAATC	TTGATAGCGA	TTGGTTACCA	GATATAGTCT	AAGTGCTTCT	CTATTCATAA	11700
ACCTCTCCTT	TGATGGTATC	TAGCCAATTT	TCATCTCTTC	TTAGGAGCGA	AAGCTGATTG	11760
AGTACTTGGT	AACGAAATTC	TTCCAATCCC	ATTCCTTGAA	CAACTATTTT	CTCAGCAGCG	11820
ATATTGAGAT	AAGAGACTGC	TAAGCAAGAA	GCTTCAAAC	CAGTCTTTCC	TTGGCTGAGA	11880
AAAACAGCTG	TTAAGGCTCC	AACCAAGTCT	CCTGTCCCTG	TTATCCAGTC	TAATTCAGTA	11940
CAGCCATTTT	CCAGTACAGC	GACCTGATTT	TTCGAAACGA	CGAGGTCCTT	GGGACCTGTG	12000
ACTAAGAAAAG	ACATACCAGG	ATAGGTCTGA	CACCAGTCTT	TCAAGACTTG	AAGCAAATCC	12060
TCCGTTTCTT	GATCTTTAGC	ACTCGCATCG	ACCCCAACGC	CGTGGTGCTT	TAATCCAACA	12120
AGACTTCGAA	TTTCTGACAT	GTTTCCTTTA	AGGACCGTAG	GTCTATAGTC	TAAAAGGTCT	12180

438

TTAACTAAGC TCTTACGAAT GGATGAAGTC GTTACGCCAA CCGCATCTAC TACCATCGGG	12240
AGAGAAGATT GGTTCGCATA CGAAGCTGCC ATGCGGATTG CTTTTTCCTT CTCAGCTGAC	12300
AAATGCCCCA AATTGATGAA GAGAGCCTGA CTTTGCTTAG TAAAATCAAG AACTTCACGG	12360
GAATCATCTG CCATGACAGG TTTGCATCCC AGAGCCAAA TCCCATTGTC CAGCATCTCA	12420
CAAGAAATCT CATTTGGTAAT GCAGTGAATG AGGGAAGTAG AGCCTATAGG AAAGGGATT	12480
GTAAATTCCT GCATCAGTCT ATCCTTTTAC TAAAGAAATA TCCCTGCACT TTTTAAAGA	12540
ATTCTGCTT GATTAAAAAT CGAAAGGCAA TAAAGGAAAT CGCTGTACCA ATCAAGGTTG	12600
CTCCGAAAAA TCGAGGCGTG TAGATAAACC AGCTAAGCTT AGCAGCTGAT CCTGTAAAGA	12660
GTACCATAAC AGGATAGGAA ACAATGGAAC CAATAATACC TGTTCCTCAA ATCTCTCTA	12720
GAGCAGAATA GTGAAATTTT CGACCGTACT TATAAAGAG ACCTGCTAGA AGGGCTCCAA	12780
AAGTCGCTCC TGTGAGAGCT AAAGGCGGAA TCCCTTGAGT CGTCATACGG ATAAAGGCTG	12840
TGACTGTAGC CATAGCCAAG GCATAAACAG GTCCCATCAT GATTCTGCT AGAATATTGA	12900
CTACTGGA CATCGGTGCC ATTCCCTCAA TTCGAAAGAT AGGTGTAAGG ACTACATCAA	12960
GGGCAATCAT CATAGATAAA ATGGTTAATT TGTGAACTTG TAATTGGTGC TTTCTCATGC	13020
TTCTATTCTT CTCCTTTTTC TAAAGACTGT AAATCGCTCT TCCATGTCTG GTGTTGGTAG	13080
GCCATTCCCC AAAACTTGGC TTCCATATGA AACTGATGT GGAAGGCATC TAGCATTTTT	13140
TGCTGTCTG TCTCGTCACT TTCTCGATAG AGCTGATTGA CCAGTGCTCC CTCCTCTCTG	13200
ATCTGTTGCT CTAATCATC CGTAATATA GTTTCAATCC ATGTTGATA GAGAGGATT	13260
GGTGATGGT TAAGATTAA TGATTGCTT ATATCATGGT ATAACCAAG ACAAGGAAGC	13320
AAGCTTGCAA AAGCGATGGC TAAGTTCCGT TCTGCAAAT GCCTATAAAT ATGAGAAATG	13380
TAATGATAAC AGGTTGGAGC GATTGGATGT TGCTCCATTT CCTGGTCGCT GATTTCCTA	13440
TCCTTGAAAA ATGTTGGCG AATAAATAAC TCACCTCCA CTAAACCCTG AGCATTTTGT	13500
TTCAAGAGTC TTTTCACTC TTGGTTTGAA GTCTTATCAG CCAAAGATG ATAGATTCT	13560
GAGAAAGCCT TCAGATAGTA GGCATCCTGA ATCAGGTAAT AGCGGAAAAT GGCAGGTTCT	13620
AAATTCCTT CTTGTAATTG TAAAATAAAG GGATGATGAA AGGAAGCCTG CCAAGCTTTC	13680
TTGGATAATT CCATCGCAAT ATCTGTAAAT TCCATAATA CTCCTTTATA AAAATAGACT	13740
GGTTTGAAGC AATAAAAAGA AAAGCAGTA GATTAAATTT GTTTTCTTAG GAATATAAAA	13800
AGTCCGATAG CTATTCTTCA ACTGTGCATG TTCGTCATAT CCGTGAGCAG ATAGAGCTCT	13860
CAGGTAAAGA TGGCGCCACC TAAAGACTGT CATCAGAAC TTTACTGTAA TCAAGGGCGA	13920
CCAAAAATGT AGTTCTTGAC CACGTAATAG GCAAGCTTCT TTGAGGGACT TGATTCTTG	13980

439

CTGAATGAGA	GGAAAAGAAT	TGAATACCCAC	AATCAAGGCA	TAGGACCAAG	AGCGTGATAG	14040
CCCCTTTTGA	GCCAAGTACA	AGAGAAGCTC	TTTTAGTGAA	ACAGAGGAAA	CAAAGACAAG	14100
GCCGATACAA	ACTGTCACAA	AGGCCCTCGT	TCCAAGCATG	ACTGCCCTGTG	AAGCATCTCC	14160
GTGTAAGTGA	ACTGCCCAGT	AGTTGGCAAA	AGATGGTAAA	ATGGCAAGTA	TGATCATCCA	14220
AGCTAACATT	TTAAATCGAC	GGTAATAGAG	CATAAAGAGA	ATACAAAATG	CGACTACCGA	14280
AAGAGTCAGA	GCAATCGAAG	GAATGAAAGA	TGTTTCCAAG	GATAAAATCA	GCAAGAAGAG	14340
ACTGATAATC	GGTGTCTGGG	TTGCTACTTT	GACCATACTA	TCTCACCTCC	CCTTGGGTAT	14400
TGCTACTCTG	AGATGTAAGT	GGTTTGGTAA	TGCTCACTTC	TTTCACATGC	CGAAGACCCT	14460
GACTAGTCAT	CTCAATCCAA	TAATCAACCA	CAGAAATCAA	AGGGTCTAAA	CGATGACTAA	14520
TGAGCAGAAA	ACTTCTTCCT	TGATTCTCT	CCTCCACAAT	CCACTTGCAA	AAATAATGGC	14580
AGGCTCTATC	ATCCAAACCT	GCAAAAGGTT	CATCTAGCAA	GATCACGGAA	GCCTTACTGG	14640
TCAAGATGGT	CAGGAGCTGA	AGAATTTTTT	GCTGACCACC	ACTTAATTGA	TAGGGACTCT	14700
TATCGACTGC	CTGCTCCAAA	TCAAAATATC	GTAAAGCTTG	AAAAATCCGC	TGATTTCTTT	14760
CAGAATCAGG	TCCATCTAAT	TGAAGCTCCT	CTCGCAGACT	GACTCGGATA	AACTGCTCT	14820
CAGCTTCCTG	AACAACACCA	GTCAGATCAC	GATACAAACT	CTTTTCTCTT	TTCAGGACCG	14880
AACCCTTCCA	AGTAATGCTC	CCCTTATACT	TTTGAAATTG	AAGAATAGAC	CGAAAGAGGG	14940
TTGATTTCCC	GACACCATTG	TCACCCAGGA	TACAGGAAAT	CCCTTGATAG	AATGTGAAAT	15000
CAGCAATTGA	AAAGAGGGGG	CGATTACCAA	GCTCACCAGT	CACACGGTTC	ATATGGAATA	15060
GTTCCGGGCT	AGAAGCAACT	TCCTTTGAAG	CAACCTGTGT	CATCTCATAG	GAAGGGATTT	15120
GAAACACTTC	CCTTAGTTTT	CCGTCTCTTA	GCTCCACCAT	ATGGTCGATA	TAGGCTTTAT	15180
AGTCAGATAA	ATCATGGTCG	CACAAAATAA	CTGTCTTCCC	ATCATAGACC	AACTCTTTTA	15240
GAATCTCCAA	TATCTCGATT	CTGCTCTTGC	GGTCAATGGA	AGCGAAGGGC	TCATCCAAGA	15300
GATAGACCC	AGGATTCATG	GCAAAGAGGA	CAGCCAGCGC	TGCTTTTTGC	TTTTCCCCAC	15360
CTGATAAGTG	ATGGATGAGA	CGGTGCAAGA	TGCTCTTGCA	ACGACATTGC	TGGACAACCT	15420
CTGCTATTTT	AGAATCAATT	TCCTGAAGGT	GATAGCCGAT	ATTTTCCATG	GTAAAAACCA	15480
ACTCCTCAAA	CAAGCTCTCC	ATGGTAAATT	GATGATTAGG	ATTTTGCAAG	AGAATACCAA	15540
CCGTCTGGAC	ACGTTCGACG	ATAGAAAGCT	GAATGACCTC	GCTCCCATCT	ATCAGGACTT	15600
GACCCTATA	GGGAAGAGAA	CTAACTTGGG	CAATCATTTG	AAAGAGGCTG	GATTTTCCAG	15660
ACCCACTACT	CCCAACTAAC	AAGGTAAAGG	CTTGCGCATG	AAAAGTAAAA	TCAAACGGCT	15720

440

CAGAGAAGAT TGGGGACTGA ATCGCTCGTA GTTCCAGACC CATCTATGCT TTTCTCCAG	15780
TTGCAAACTG ATGATAGAGT TTGACAATGG CACGAACCAA GATGGTACAG AAGAAATAAA	15840
CAGAAATAAA ACGTACCACA AGCAAGGAAA GGACAAACGG AAGGGAAAAAG GCGTAGTAAC	15900
CTAACTTAAT GTATTCATAG ACAAAGCTAA CAAGCGTAAT CCCAATACTA TTAGCAGTTA	15960
GAGAGAGCCA ACTTTCATAG CGATTCTTAG TTACGATAAA ACCAAATTCA CTTCCCAAAC	16020
CTTGAACAAA GCCAGACAAA AGAGCTCCTA GACCAAATTG GCTACCATAA AGGACTTCAG	16080
CAAGCGCAGC TAGCACTTCT CCAATCGTIG CACTTCCGAC TCTCGGAACA AAGATGGCAG	16140
CAATGGGCGC AGCCATACAC CAGAGACCGA AGAGGATTTT ATTGGCAAAG GCCTGCAAAAC	16200
CAAGAGGTGT TAAGAGTAGA CTGAGAATAT TATACACATA TCCTGAACCA ACGAAAACCC	16260
CACCAAAAAA GATAGACAAG AAAGCAAGCA AGATAACATC TTTTAACTGC CATTTTTCAT	16320
ACATAAAAAA CTCCTTTTTT TAAAGAAAAG TGAGGCACTC AAGAAGACCG ACCTAAATAC	16380
TTTGTATAGC AGACTGAATT TAGAACAGTA CACAAGAACA CTAAATATTT TCTAGAAATT	16440
AATTTGAATT TTCTAATTGA TTTGTTCGCA TCTTATTTCA ATCTACTATA TCATCTTCAT	16500
CCAGTTTCGT AAAAGAAAAA ACTCTAATTA CAGATACAAA TTAGAGTTCA GCTTACAAGA	16560
TTAGACAGTT CTTTTCGACA TACGAAAAAA ACATTTCACA TTCCCTTCG CCAGTCTTAA	16620
CTGTATCAGG TTCAATGGGT ATCATCTCAG CCTAAAGCAC CCCAAATGTC TTTATTATTT	16680
AATTATGTGA TTATTATAAC ACACATTTTA TACTAGTTCA AGAAATTGAA CTGGAAATAC	16740
AGCCTTGAC TCACAAAGAC AGCAGATCTT TCTTTTGCAA AAAACAAATG ACCTGTTTGA	16800
TGAATTAGCC ATCAAGCTG AATCTGGACA TAGCTTTTAA AAAAAGGAAA ATCCTACTTA	16860
CTTAGAATCC AAGGATAGAT ATCTATTGTT CACTCATTTT CCGAACAGTT TTTCTATAT	16920
TTTTTGCATA CGATATTGCC GAAATGATTG AAACGCCATC CATATTGGTC TTTATAATGT	16980
CTTTAATATG TTTCGTCTGT ATCCCACCAA TTGCAACTAA AGGCATTTGT GGCAATAGTT	17040
TTCTCATCAA TTCAAGACCT TCATAACCTA TAGTACCACC AGCATCATCC TTTGACTGGG	17100
TACCAATAC AGGCCCAACA CCTACATAAT CTACATATTC AACTTTTGAT TCTTGAAATT	17160
CTTCTTCGTT TCTTATAGAA AGACCAATTA TTTTATCTGG CATCAATTTT CTAATTTTAT	17220
CAACACCAAT ATCATCTTGA CCTACATGTA CGCCATCGGC GTCAATTTCC ATTGCTAAAT	17280
CTATATCGTC ATTAACGATA AATGGAACAT TGTATTTTTT ACAAAGTTCT TTAATTTGGA	17340
TAGCTAGCTC AAGTTTTTCT AAGCCTTCTA AAGCACCTTC ACCTTTTTTCT CGAAATTGAA	17400
ATAAGGTTAT ACCACCTTTT AAGGCTTCCT CAACGACTGT ATATAGATTT TTTCTTGGC	17460
AAGTAGTCGT TCCACAAATA AAATATAGTT TTAGTAATTC TTTATGAAAC ATCTTACTTC	17520

441

ACTCTTTTGA	ATTCCTTTAC	ATCTTCATCT	GTAATCTCGT	ATAAGGCATT	TATAAAATCA	17580
ACTTTTAAATG	TCCCAGGAAG	ATGTCCATTT	GGACGTTTTT	CTGCTATTTT	TCCAGCGATA	17640
TTGTAAACCA	ACACTGCTGT	TTTTAATGAT	TTCAATTCCT	GACCTTTTTT	TAGTCCGATA	17700
AAGCTTGCTA	CTACAGCTCC	TAATAAGCAT	CCTGTCCCAA	TGACTTTCGG	CATCATAGCA	17760
CTACCATTAT	GAATCATTAC	CACCTTCTCCA	TTAACAGCAA	TGGCATCCAC	TTCACCTGTT	17820
ACTACTATTG	GAATATTGAA	CTTCTCATTT	GCTGCTAGAG	CAATTTTCGT	AAATATTATCT	17880
ACGCCCCGAC	TATCTACTCC	TTTAGATGCC	ACATCTATTC	CTACTAAAGA	GGCAATCTCG	17940
CCAGCATTTT	CTCTAATCGC	TGCTAGTTTA	TAATTGTTGA	TTAGATCATC	TGCTACTTTT	18000
TTTCTATATT	CTCCTGCTCC	ACAGGCTACA	GGATCTAAAA	CTGCTGGGAC	ATTATATTTT	18060
TCTGCAATTT	TCAGAGCAGC	TTGGTATAAT	TTCCAATTTT	CATCTGTCAA	TGTTCTTATG	18120
TTTATTAATA	AACCACCAGC	ATACTTTAAC	AAATCCTCTA	AATCTGCTGG	AAACTCACTC	18180
ATGGCTGGTG	AGGCGCCCAG	TGCTACTAAT	CCATTTGCTG	TGAAATTTTT	TACTACATCA	18240
TTGGTTATAC	AAATGACCAA	TGGTGCTTTT	TCTTTTAATA	ATTTTAAACT	TGTCATATTG	18300
AAATCCTTCC	TTTTCACTTT	ATACGATCTA	CTAATTTCTG	TTTATCTTTA	GTTGAGAATT	18360
TTTTTCATTT	ACATTGAATG	ATTATACTTC	AATGAAAATC	AAAGAGCAAA	CTAGGAGGCT	18420
AACCGCAGGT	TGCTCAAAAC	ACTGTTTTGA	GGTTGTGGAT	AGAACTGACG	TGCTTTGAAG	18480
AGATTTTCTG	AGAGTCTTAC	CTCATCAAAT	TTGTAAATAT	CATGAGCCTT	CTCTAGACAT	18540
CGTAACCAAT	ATCAAAAAAA	GCTAATTTCT	AAGCGACTGC	TTGATTCCAG	CGTTGCTGAA	18600
GTTCTGTCAA	ATCTTCTCGA	TTTTTACCGA	CACGATTGAG	TTCGTCAACC	AGAAATTGAA	18660
CCCACTCTGC	AAAGAAAGGA	CCTCTGTGGA	GATTGATCCA	TTCCGAATGA	ATATAGACTT	18720
CAGGTAAAGC	CAAATCTTTA	GAACCCAGT	CTAAATAGAG	ACCTTCTGCA	ATGACCAGCA	18780
TGACCAAAAG	ATGGGCATAG	TCTGATGAAG	CCACCGCCGA	ATACATTAGA	TCCTGAAAGG	18840
CTTTTGTTAC	AGGGTGCAAA	GTCACTTCTA	GATAGTCATT	CTCTGCTACT	TTTAACTCTT	18900
TAAAGCCCTT	TTGGAATATA	CCATCTTCAT	CTGCTTCAAG	AAAGCCTAGT	TGCTTGGAAG	18960
AACGAAGCTT	GGATTCAAGT	TTATCTGCGT	GACTACGCAG	GCACCCAGCA	TGGATAAGAA	19020
GGCATCAAAG	AAGTGATAAT	CTTGAATCAG	ATAGTCCTTT	AAGACCTTAT	TCTCAATTCT	19080
CCCCGCAAAA	AGTTCCTTAA	CAAAACGATG	ATTGATTGCA	GCCTGCCAAT	CCTTCTGACT	19140
GCTTTTAAAT	AATTTCTCAA	CAGTCAAACC	TGGCTGAAAT	GCATAGTCTT	GTGTTTCCAT	19200
ATTTACTTCT	CCTCTCTTTA	CTTGTTAGTA	ATTAATAAAA	CACCAAGAAA	TATCAAGCAA	19260

442

AATCGTAATT CCACTTGATC CTTTTAAAGC ACATCGAGAG CATTTCGAGA GAGCTAACTA	19320
AACAAGCCTA TCCAGTTTAT ATAAACAAAA AACTCCAATT ACAATCAAGA ATTAGAGTTG	19380
ACTTACAAGA TTAGACCGTT CATTTCACCA TACGAAAAAA CTGTTCCACAT TTCCCTTCGC	19440
CAGTCTTAAC TGTATCAGGT TCAATGGGTA TTATCTCAGC CTAAAGCACC CCAAATGTCT	19500
CTATTATTTA ACTACTGAAC CAGTATAGCA AAAAATGAAA GCCCTAGCAA GATATTTGAC	19560
CGAAAAATAT CTTTATATAT AATATATTGA AACTAGAATA GTACACCTCT ACTTATAAAA	19620
CATTGTTAGA AATCGATTG ACTGTCCTGA TTGATTTGTC CTATTCTTAT TTCATTTTAC	19680
TATAGTTTTC GATAGCAATT TATTCTTCCA ATACACGAAG AAAAACCTCC ACATTCAGTG	19740
GAGGCAATCT GTTTTATCAA TACAATTTTA AGTCACGAGG GTCAACTGGG AAGGTTGGGT	19800
TGTATGGATT GTGACGGAGC TTGAAGTGT TGACATCTTC AATGGTCTGA GTTCCAGACA	19860
ATTGCATAAC TGTCTTCAAT TCCGCATTCA AGTGTTCAAA GACTTGACGC ACACCGACAC	19920
TACCACCGAG AGCCAAGCCA TAGATGACAG GCGCTCCAAT AGCAACCAAG TCTGCTCCTG	19980
ATGCCAAGGC TTAAAGACG TGTTGACCAC GACGAACACC AGAGTCAAAG ACAATCGGCA	20040
CACGCTATC AACTGCTTCT GCCACTTCTT GAAGCGAGTC AAAGGCAGCT GGTCCACCGT	20100
CGATTTGACG ACCACCGTGG TTGGTTACCC AGATACCAGA AGCTCCTGCA GCAAGCGAAC	20160
GTTCAACGTC CTCACGGCAT TGTGGTCCCT TGACATACAC AGGAAGACCA GAGTATTAG	20220
CGATAAATTC TACATCGCGT GGAGACAAGC GTTGTTTAGC TGATTGTAA ACAAGTCCA	20280
TTGATTTACC AGCACCTTCT GGCAGGTATT CTTCAACAAT CGGCATGCCA ACTGGGAAGA	20340
CAAAACCAT ACGCTTATCC ACTTCACGAT TCCCCCTAC AGTAGCATCT GCCGTCAAGA	20400
CAATCGCTTT ATAACCTTCA GCCTTCACAC GGTCCATGAT GTGGCGGTTG ATACCGTCAT	20460
CCTTACTAAA GTAAAATTGA AACCAATGAG GTGTCCCTTG GAGGGCTTCA GAAATCTCTG	20520
GAAGGTCAAC AGTAGAGTAA GAACTGGTTG TATAAAGAGA ACCAAACTCA TGCACACCAC	20580
GCGCAGTCGC CACTTCCCCC TGTTCATTG CCAATTTATG AGCCGCAACA GGTGCCATAA	20640
TGATTGGAGA AGATAGTTTT TCACCTGCAA ATTCAATCTC TGTACTTGGA TTTTCTACAT	20700
TGCAAAGTGT ATGAGGAACG ATGAGCTTGT GGTAAAGGC ACGGATATTC TCTCTTAAAG	20760
TGAAAGTATC TTCCGCCCCA CTAGCGATAT AGCCAAATGC TGCTTTAGGA ATAACTTGT	20820
GCGCCATTGG CTCCAAATCA TAGGTATTGA TGAAATCTAC ATGACCTTCT GCATTGCTTG	20880
TTTTGTATGA CATAAAATGT CCTCCTTAAT AAGTAAGCGT TTACTTTGTG TATTACAAAA	20940
ATATCTTAAC TCTTTTCAA AACTTTTAAA ATATTTTGTG TGGAAATTC AGAAATTTTA	21000
TGTCTATGAT AAAAATCCTT ATAACGGCAA TAAAAATAG ATATTATCCA AAGAAGATTT	21060

443

TAAGTGCTAC AATAACTGTA TTATTTCTAG ATGGGAGGTT CTATTTTGG ATTGATCCAT	21120
TGTTGAACAA TATCTACCAC TATATCAAAA GGCATTCTTT CTGACCTTGC ATATTGCAGT	21180
TTGGGGAATT TTGGGATCCT TTCTGCTCGG TTTAATCGTT AGTATCATCC GACATTATCG	21240
AATCCTTGTT TTGGCGCAAG TAGCGACAGC CTACATTGAA TTGTCACGTA ATACGCCCTT	21300
TTTGATTCAA CTCTTCTTTC TCTACTTCGG TCTTCCCGA ATCGGGATTG TCCTATCTTC	21360
AGAAGTCTGT GCAACGCTTG GGCTTGTCCT TTTAGGAGGC TCCTATATGG CAGAATCTTT	21420
CCGAAGTGGG CTGGAAGCCA TCAGTCAAAC CCAGCAGGAG ATTGGCCTCG CTATTGGTCT	21480
GACACCTCTA CAGGTCTTTT ACTATGTGGT TCTTCCGAA GCAACAGCGG TGGCACTCCC	21540
CTCCTTTAGT GCCAATGTCA TTTTCCTTAT CAAGGAAACC TCTGTTTCT CAGCAGTGGC	21600
TTTGCCGAC CTCATGTACG TCGCCAAGGA TTTGATTGGT CTCTACTATG AGACAGACAT	21660
TGCGCTAGCT ATGTTGGTAG TTGCTTATCT AATCATGCTG CTACCCATCT CACTGGTCTT	21720
TAGCTGGATA GAAAGGAGGC TCCGCCATGC AGGATTCGGG AATCCAAGTA CTCTTTCAAG	21780
GAAATAATCT CCTGAGAATC TTACAGGGAT TGGGCGTTAC GATTGGGATA TCCATCCTGT	21840
CTGTCTCTT ATCCATGATG TTCAGAACAG TCATGGGAAT CATCATGACC TCCCATTCTA	21900
GAATCATACG ATTTTAAACA CGATTGTATC TGGAATTTAT CCGTATCATG CCCCAGCTGG	21960
TGCTACTCTT CATCGTTTAC TTTGGCTTGG CTCGAACTT TAAATATCAAT ATCTCAGGTG	22020
AGACTTCAGC TATTATCGTT TTTACCTCT GGGGAACAGC TGAATGGGA GACTTGGTAC	22080
GTGGAGCTAT CACTTCTCTC CCTAAACATC AGTTTGAAAG TGGACAGGCA CTCGGCTTGA	22140
CTAATGTCA ACTTTACTAC CACATCATCA TCCCACAAGT CTTAAGAAGA CTGCTACCGC	22200
AGGCTATCAA TCTTGTCCT CGGATGATTA AAACCACTTC ATTAGTTGTT TTGATTGGGG	22260
TTGTGGAAGT GACCAAAGT GGACAACAAA TCATCGATAG CAATCGCCTG ACCATCCCAA	22320
CTGCTTCATT TTGGATTTAT GGAACCATT CTAATCTTATA TTTCGCAGTT TGCTACCCTA	22380
TTTCCAACT ATCCACTCAC TTAGAAAAAC ATTGGAGAAA CTAAATGTCT GAACTATCT	22440
TAGAAATCAA GGAACATAAA AAATCCTTCG GAGACAATCC CATCTCCAA GGAATTTCTC	22500
TAGAAATCAA AAAAGGGGAA GTTGTGTGCA TCCTAGGGCC ATCTGGTTGT GGGAAAAGTA	22560
CCCTCCTTCG TTGCCTCAAC GGCTTAGAAA GTATTCAAGG TGGAGATATT CTTCTGGATG	22620
GTCAGTCTAT CGTTGAAAAT AAAAAAGATT TTCACCTAGT TCGCCAAAAG ATTGGCATGG	22680
TCTTCAAAG TTATGAACTC TTTCCCATC TGGATGTCTT ACAAACCTC ATCCTAGGCC	22740
CTATCAAAGC TCAAGGAAGG GACAAGAAAG AAGTAACGGA AGAAGCTTTG CAATTACTAG	22800

444

AGCGTGTCGG	TTTGCTGGAT	AAACAACATA	GCTTTGCCCG	TCAATTATCT	GGTGGACAGA	22860
AGCAACGTGT	TGCAATTGTC	CGTGCCCTCC	TAATGCATCC	AGAAATCATC	CTTTTGTACG	22920
AGGTGACTGC	TTCGCTGGAT	CCAGAAATGG	TGCGTGAGGT	GCTGGAACCT	ATCAATGATT	22980
TGGCCCAAGA	AGGCCGTACC	ATGATTTTAG	TAACCCACGA	AATGCAGTTT	GCCCAAGCCA	23040
TTACTGACCG	GATTATCTTC	CTCGACCAAG	GGAAAATCGC	TGAAGAAGGA	ACAGCTCAAG	23100
CCTTCTTTAC	CAATCCGCAA	ACCAAACGAG	CCCAGGAATT	TTTAAACGTC	TTTGACTTTA	23160
GCCAATTCCG	CTCATATCTA	TAAAGGAGAT	TCTTATGAAA	CTATTCAAAC	CACTCTTAAC	23220
TGTTTTAGCA	CTTGCCTTTG	CCCTTATCTT	TATCACTGCT	TGTAGCTCAG	GTGGAAACGC	23280
TGGTTCATCC	TCTGAAAAAA	CAACTGCCAA	AGCTCGCACT	ATCGATGAAA	TCAAAAAAAG	23340
CGGTGAAC TG	CGAATCGCCG	TGTTTGGAGA	TAAAAAACCG	TTTGGCTACG	TTGACAATGA	23400
TGGTCTTAC	CAAGGCTACG	CTACGATATT	GAAGTAGGGA	ACCAACTAGC	TCAAGACCTT	23460
GGTGTCAAGG	TTAATACAT	TTCAGTCGAT	GCTGCCAACC	GTGCGGAATA	CTTGATTTC	23520
AACAAGGTAG	ATATTACTCT	TGCTAACTTT	ACAGTAACTG	ACGAACGTAA	GAAACAAGTT	23580
GATTTTGCCC	TTCCATATAT	GAAAGTTTCT	CTGGGTGTCG	TATCACCTAA	GACTGGTCTC	23640
ATTACAGACG	TCAACAACCT	TGAAGGTAAA	ACCTTAATTG	TCACAAAAGG	AACGACTGCT	23700
GAGACTTATT	TTGAAAAGAA	TCATCCAGAA	ATCAAACCTC	AAAAATACGA	CCAATACAGT	23760
GACTCTTACC	AAGCTCTTCT	TGACGGACGT	GGAGATGCCT	TTTCAACTGA	CAATACGGAA	23820
GTTCTAGCTT	GGGCGCTTGA	AAATAAAGGA	TTTGAAGTAG	GAATTACTTC	CCTCGGTGAT	23880
CCC GATACCA	TTGCGGCAGC	AGTTCAAAAA	GGCAACCAAG	AATTGCTAGA	CTTCATCAAT	23940
AAAGATATTG	AAAAATTAGG	CAAGGAAAAC	TTCTTCCACA	AGGCCTATGA	AAAGACACTT	24000
CACCCAACCT	ACGGTGACGC	TGCTAAAGCA	GATGACCTGG	TTGTTGAAGG	TGGAAAAGTT	24060
GATTAGTCAT	TAACCTTAA	AAGGAACTGG	ATTTTAAGCT	CCAATCCCTT	TTTAAGATTT	24120
TACCTATAAC	ATCCTGAGTC	TATCTAAGAT	GTTCAATCTG	AACACAGTGT	ACATACTTTA	24180
TCTTCTATTG	CATATACTTT	ATCACATAAG	ATACGAATAT	CCTCTTCACT	ATGACTAGCA	24240
ATCAAAATTG	TTGTCCCTTT	TTCAC TAGAG	AGCTTTCTAA	ACAATGTTCT	CATATTTTCT	24300
ACACTTGATT	TATCCAAGGC	ATTCATAGGT	TCATCTAGTA	AAAGAATAGA	GGGATTCTCC	24360
ATAATTGCTT	GAGCAATCCC	TAGCTTTTTC	CTCATACCTA	GCGAATAAGT	TTTAACCTTC	24420
TGGTCTTTTT	GCTCATATAG	ACCAACTATT	TTCAGTGTAT	CATTGATTTC	CTGATTACCA	24480
ACTACTCCTC	GTATGCTTGC	CAAATATTGT	AAATCTTAA	AGCCACTATA	ATAATTTATA	24540
AAACCAGGTT	CTTCAATCAA	AGCTCCCAA	TTAGCTGGAA	TTTTTCTCTC	AGGAACAATA	24600

445

TTTTCCCCAT TGATTAACAC TTCTCCATAA GACGGACTAT ATAAACCAGC TATTAATTTA	24660
AACAATACAC TTTTCCCTGA GCCATTTCGA CCAGTAATTC CTATAATTTT CCCCTGTTTA	24720
CAACTAAAGT TAAGGTTTGT AAAAACACAT GTCTTTTFTA ATTTCAACTC AATATTTTGT	24780
AATGTAATTA TTTCATTTCAT TCTATAAACC TCCTCTTTTG ACGAGTGAAA TAGAAAATGC	24840
TTTGAAAAAG AAAGACTAAA AATAGCAACT GAAGAAATAA ATCTCGTCCT ATATCTCCAT	24900
TCCCTCGATT CAAAATATAA AATAGATAAT TAGTTCGATT TCCTACAAAT AGACCACCAA	24960
ACACAATCAT GAGTAAAAAG AACTAACGC AAGCAAAGTT CG	25002

(2) INFORMATION FOR SEQ ID NO: 49:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 11443 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: double
 - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 49:

CAGGTACGGT GAGGCGCAAC TAAATATAA TTTTCATCTT GATTAGGAAT TTTATCAGTA	60
TTATGATAGT GAGCATTGCC ATTGATGGAC CATAAGAGCA ATACAACTAA TCCACGCAAA	120
TAAGTATAAA ACATGCGATC TCCTTCGATT GTTTTCTTGT TATTATTATA CCTTATCAAA	180
GGAGGGCTGG CAAACTTTTC CCTTGACTAG ATACATATTT AGGATGAAAT TAGAATCTCTG	240
TTAAAAAATA TGATATAATA GAATTTATGG ATAAAAATAA GATTATGGGA TTAACCCAAA	300
GAGAAGTCAA GGAAAGACAG GCTGAGGCTT TGGTCAATGA CTTTACCGCA TCAGCCAGTA	360
CCAGCACTTG GCAATTCGTT AAACGAAATG TCTTTACCCT TTTTAACGCT TTGAACTTTG	420
CCATTGCTTT GGCTCTTGCC TTGTGTCAGG CTTGGAGCAA TCTGGTCTTC TTGCTGTTA	480
TCTGCTTTAA CGCTTTTCTT GGGATTGTGA CCGAGCTACG AGCCAAACAC ATGGTGGACA	540
AGCTCAATCT CATGACCAAG GAAAAGGTCA AAACCATCCG TGATGGTCAG GAAGTTGCTC	600
TTAATCCTGA AGAATTAGTG CTAGGAGATG TCATTCGTTT GTCTGCAGGA GAGCAGATTC	660
CTAGTGATGC CTTGGTTTGT GAAGGCTTTG CGGAAGTCAA TGAAGCCATG TTAACGGGAG	720
AAAGTGATTT GGTGCAAAAAG GAAGTTGACG GCTTACTTTT GTCAGGAAGT TTCCTAGCCA	780
GTGGGTCAGT TTTATCTCAA GTTCACCATG TCGGTGCAGA CAACTATGCT GCCAACTCA	840
TGCTTGAGGC TAAGACCGTT AAACCCATCA ACTCCCGTAT CATGAAATCG CTGGACAAGT	900
TGGCTGTTT TACTGGGAAG ATTATCATTC CCTTGGTCT GGCTCTCTTG CTGGAAGCCT	960

446

TGCTTTTAAA AGGCCTGCCT CTCAAGTCAT CCGTTGTAAA CTCGTCGACA GCTCTTTTGG	1020
GAATGTTGCC TAAGGGAATT GCCCTTTTGA CCATTACTTC GCTCTTGA CTGAGTATTA	1080
AGTTGGGCTT GAAAAAGGTC TTGGTGCAGG AGATGTACTC TGTGAGACC TTGGCGCGCG	1140
TGGATATGCT CTGTCTGGAC AAGACGGGTA CCATCACCCA AGGAAAGATG CAGGTGGAGG	1200
CTGTTCTTCC GTTGACGGAA ACGTATGGTG AAGAGGCTAT TGCCAGCATC TTGACTAGCT	1260
ACATGGCCCA TAGTGAGGAT AAGAATCCAA CTGCCCAAGC CATTCGCCAG CGTTTTGTGG	1320
GAGATGTTGC TTATCCTATG ATTTCCAATC TTCCCTTCTC GAGCGACCGC AAGTGGGGGG	1380
CTATGGAGTT AGAAGGCTTG GGGACAGTTT TCTTAGGGGC ACCTGAGATG TTGCTTGATT	1440
CTGAAGTCCC AGAAGCTAGG GAGGCCTTGG AGAGAGGATC ACGTGTCTTG GTCTTAGCTC	1500
TCAGTCAGGA GAAATTAGAC CATCACAAAC CACAGAAACC ATCTGATATT CAGGCTCTAG	1560
CCTTGCTGGA AATCTTGGAC CCCATTCGAG AGGGAGCAGC AGAGACGCTG GACTATCTCC	1620
GTCTCAGGA GGTGGGACTC AAGATTATCT CTGGTGACAA TCCAGTACG GTGTCCAGCA	1680
TTGCCCAGAA GGCTGGTTTT GCGGACTATC ACAGCTATGT AGATTGCTCA AAAATCACCG	1740
ATGAGGAATT GATGGCCATG GCGGAGGAGA CAGCTATTTT CGGACGTGTT TCCCCTCATC	1800
AAAAGAAACT CATCATCCAA ACGTTGAAAA AAGCGGGACA TACAACGGCT ATGACAGGGG	1860
ACGGGGTTAA TGATATCTTG GCCCTTCGIG AGGCGGATTG TTCTATCGTG ATGGCGGAGG	1920
GGGATCCAGC AACCCGTCAG ATTGCCAATC TGGTTCTCTT GAACTCAGAC TTTAATGATG	1980
TTCTGAGAT TCTCTTCGAG GGTGTCGCG TGGTCAATAA CATTGCCCAC ATCGCCCCGA	2040
TTTCTTGAT AAAGACCATC TATTCCTTCC TGTTAGCAGT CATCTGIATT GCCAGTGCTT	2100
TACTAGGTCG GTCAGAGTGG ATTTTGATTT TCCCCTTCAT TCCGATCCAG ATTACCATGA	2160
TTGACCAGTT TGTGGAAGGT TTCCCACCAT TCGTTCTGAC TTTTGAGCGA AATATCAAAC	2220
CTGTTGAGCA GAATTTCTC AGAAAATCCA TGCTTCGTGC CCTACCAAGC GCTCTCATGG	2280
TCGTCTTCAG CGTCCTGTTT GTGAAAATGT TTGGCGCGAG TCAAGGTTGG TCTGAGTTAG	2340
AAATCTCAAC TCTACTCTAT TATCTCTTGG GGTCAATTGG TTTCTTATCC GTATTTAGAG	2400
CCTGCATGCC ATTTACCCTA TGGCGTGTC TCTTGATTGT TTGGTCAGTA GGAGGTTTCC	2460
TAGCCACAGC TCTCTTCCA AGAATTCAAA AACTGCTTGA AATTTCAACC TTAACAGAAC	2520
AAACGTTGCC TGTTTATGGT GTCATGATGT TGGTCTTTAC CGTGATTTTC ATCCTGACCA	2580
GTGTTACCA AGCGAAAAA TAAATCAAAA CCACCAGTGT GAACTGGTGG TTTGTTCTGC	2640
GGCTATAAGC CGCTTCTACC GGCCAGGGCC AAAGGCCAC CGAAATAGCT TCCTCGCGCA	2700
CCACTTTCCC GAGCAGGTGC TAAAGCACCT TAGTTACTTC CTCTTATTTA TTTCGCCAGT	2760

447

AAACGGATCT ACTGACTCGA ATAACGTGAG CTGGTCTGCT ACTCTGTCTT CTTGTAATTG	2820
ATTCTGAATA TATTCAGCTA TCACTTTCTG ATTACGGCCT ACCGTATCTA CATAATAGCC	2880
TCTACACCAA AACTTGCGAT TGCCATATTT GTATTTTAAA TTCGCATGCT TATCAAAAAAT	2940
CATCAAACCTG CTCTTGCCCT TTAAATAGCC CATAAAGGAC GAAACACTAA GTTTCGGAGG	3000
AATACTGATA AGCATGTGAA TATGGTCTGA ACAAGCATTG GCTTCATGGA TTATTACACC	3060
CTTACGCTCA CATAAGTCAC GTATGATTCT TCCGATACTA GCTTTGTATC TGCCATAAAT	3120
GATTTGACGA CGATATTTGG GTGCAAAAAC AATATGATAT TTACAATTCC ATGTGGTATG	3180
TGATAAACTT TGATTATCCT CTCTCATGAG GTACCTCCTG TATGATATGT TGTAAGTGGCG	3240
GAGAAACCAC TTCTATCTTA TCATTTTAGG AGGTTCTTTT TGTTACCACG CTAAAAGCTC	3300
TATGGAAcCA CTAGCATAGC TAGTGGTTTT CGGGAGACAA CAAGAAAGAC TGCAATCTGT	3360
GGATTGCAGT TTTTATACG ATGGATCTAT CGTAGATCTG ATGTGCAAGG CCTACGTGCC	3420
GATCATCTAT CGGTGAACCC AAGAGCGACC CTAAGCCTG CTGGATTGA GGTAATAGAT	3480
TCAAATATCT GTAGTTAGAC TATTTGAAGT TTGATGTAAG AAAGAGAAAG CGACAGATTG	3540
AAGTAATTTT AACTCTCTC TATTGCTAGA ACAAATGGTC GGATAGGTTG GTAGTTTGAA	3600
AATGAAGATG CTATCTATTG TTAAATGGAA CATACTGTTA TTTATTAGAA AATCGTTTGG	3660
TTTATTTCTT ATCAAATACG AAAAGCAACT TAAATATTC AACTAAAATA GATGTTATGA	3720
AGAAAAGCTA AAATGATTTT GGCATAGTGA GGTCTCTGTC TATTTGATAT CATATTTTGT	3780
ATAAAAACAA AAATGTCCAT TGCAAAGGAC AAAATGCGAA GTATATTAT TTTTGAAAGC	3840
GATATAATGG ATTCATAAAG GAGGTGTATC GTGTCTAGAA AACAAGAACA AATGGAAACG	3900
TTGTTGCTCC TTTTGCGAGA TAGTAAGGAT TATATATCTG CTAAAGTATT GGGAGAAAAA	3960
TTAAATTGCT CTGATAAAAC GGTTTATCGC CTTGTCAAGG GAATCAACAA AGATTGTCCG	4020
GTAGAAGCAT TCATTTTATC TGAAAAAGGC AGAGGTTTCA AATTAAATCC AAGAAGTTCC	4080
CTCGTGGACG TTGATGGGAA TTTTACAGAG GCTTTTGATC CTGAAGTAAG GCGTGAAAAA	4140
TTACTAGAAC GTCTCTTGTT GACTGCTCCT AAGCCACATT CTATTTATGA TTTAGGAGAG	4200
GAATTCTACG TAAGCGAGTC AGTAGTACTA AAAGATCGTC AGATATTACA AGAGAGTCTA	4260
GCAATTTATG GGTTAGATTT AAAAATGAGA CAACGAAAGC TTTTATATGA TGGGGATGAG	4320
GCTCAAATTC GTTCAGCCAT TCTAAATCTA CTGCCAATGT TTAATCAGTT GGATTTAGAG	4380
CAAATTACAC AGAATAAGGT TCAGCCTCTT GACGGAGAAC TTGCTCACTT TTGTTTGGGA	4440
TTACTGATTA CACTTGACAG AGAATTGGGG GTAAACATTC CCTATCCATA TAATATAAAT	4500

448

ATTTTCTCTC	ACCTGTATAT	TTTATCAGT	AGGAATCGTC	GTAGTACTAG	TATTCATGTT	4560
GTAGCACCTT	CAAAACCTAC	TATTGTTGAT	GAGAAAATT	ACAGTGCTCG	TCAAAAAATT	4620
ATTCAAGAAA	TTGAACAATA	TTTtaggatg	AAGGTTGATG	CAGTTGAGAT	TGACTATCTT	4680
TATCAATACG	TTGTATCTTC	GAGATTGCAA	AAACCATTTT	CTTCCGGGAA	GCTTCCTTTT	4740
TCTCAGCGAG	TTTtagatgt	CACTCATTAC	TATTTTAGCC	GTATGTGTAT	GGACAATAGA	4800
GAGATTGAAA	CGACAGATCC	TGACTTTGTT	GACTTGCGCA	GTCAATATCAG	TCCCTTACTG	4860
AGGAGATTAG	ATAATAGAGT	ACAGATTAAG	AATAGTCTTT	TATCACAAT	TCTTTTAACC	4920
TATCCTAATC	TGGTTAAAGA	GTAAACAACT	ATTTCTAAAG	AAGTGAGTCT	AGTATTTGGT	4980
TTTGCTTCCT	TGAGTCTGGA	CGAGATTGGT	TTTCTAGTCT	TATATTTTGC	ACGGTTTCAA	5040
GAAAAGCGAG	CACGTCCTCT	AAAAACAGTA	GTGATGTGTA	CATCAGGTGT	CGAACTTCA	5100
GAGCTTTTAC	GAGCACGATT	AGAAAAGCAA	TTTTCTGAAT	TGGATATTAT	TGATGTAGTT	5160
GCTTATCATC	AATTAGATGA	GCTGATAAAT	CTATATCCAG	ATTTAGATTT	CATTGTGACG	5220
ACGGTAGCTT	TGCAGGAACC	AGCAAGTGTC	CCGTTTGTCC	TAGTTAGTGT	TTTTCTAACC	5280
GAGGGTGATA	AACAACGTCT	TCAAGCAAAA	ATTCAGGAGA	TAAACTATGA	ATAATCTTTC	5340
GCTTGTCCTT	ATGGATATAT	CTGTTCAAAA	TCGTCAAGAA	GCCTACAAAG	AATTAGCAAA	5400
TCAAATCAGC	CTTCTTGTTT	CTGAAGATAC	AGAAAAATA	GAAGAGCTTC	TATATTACCG	5460
TGAGAGACAG	GGAAGTATAG	AGGTTGCTAA	AGTCTTCTT	CTACCACATT	GTGAAGGAAA	5520
CTTTCAACAT	CATGTCTTAG	TGATTACTAG	ATTAAATCA	CCTATCAGAG	AATGGTCGAA	5580
GGATATCCAG	TGTGTTGACC	TTATTATCGG	TTTGGCCATT	GCAGTATCAC	AGGACAAGTC	5640
ATGTATTAAA	ACATTGATGA	GAAGACTAGC	AGATGAATCA	TTCATAAATC	AATTAAAACA	5700
GTTAACAAAA	GAAGAATTAC	GGGAGATAAT	ATATGGAAAT	CAAAGATATT	CTTAATGTGA	5760
GTCTGATCCA	GACCGATTTA	CAGATGCAGA	GCAAAGAAGA	GGTTTTTGAG	GCATTAGCTC	5820
AACTATTGGT	TGAGACGGGT	TATGTGTCTG	ATAGAGACCA	ATTTATCGAA	GGTCTTTATC	5880
AGAGAGAGGC	AGAAGGACAG	ACCGGTATTG	GGAATTATAT	TGCTATTCCC	CATAGCAAGA	5940
GTTCTGCTGT	GGAGAAGGCG	GGGGTAGTCA	TAGCTATAAA	TCACAATGAG	ATTCCTTGGG	6000
AGACCATTGA	TGGGAAAGGG	GTCAAAGTAA	TTGTACTCTT	TGCAGTTGGT	GATGATACAG	6060
AAGCTGCTAG	GGAGCATTTG	AAGACCTTAT	CACTCTTTGC	TCGAAAACCT	GGTAATGACG	6120
AAGTTGTTGC	CAAATTAGTT	CGGGCTCAGA	CATCTGATGA	TGTGATTGCA	GCTTTTGT	6180
AATAAGAAAA	AATTTTGAG	GGTATCCGTA	TGAAAATTGT	TGGTGTGCA	GCTTGTA	6240
TGGGAATTGC	CCACACTTAT	ATTGCACAGG	AAAAATTAGA	GAATGCCGCA	AAGGTAGCTG	6300

GACATGTGAT TCATGTTGAG ACTCAGGGGA CAATAGGGGT AGAAAATCAA TTGAGTCAAG	6360
AGCAGATTGA TGCAGCGGAT GTAGTTATTT TAGCAGTTGA TGTTAAGATT TCTGGTATGG	6420
AACGCTTTGA GGGTAAAAAG ATTATCAAGG TTCCAACAGA AGTGGCAGTC AAATCTCCCA	6480
ATAAACTGAT TGCTAAAGCT GTTGAGATTG TTACGAAATA ACTGAAAATA TTTAAGGAGA	6540
AAATATATGT TGAAACACTT AAACCTAAAA GGTCACCTTAT TGACAGCCAT TTCCTATATG	6600
ATTCCAATTG TTTGTGCTGC AGGATTCTTA GTTGCCATTG GTTTAGCAAT GGGGGGTGGT	6660
GTTCCTGACG CTCTTGTAGC AGGAAAATTC ACTATCTGGG ATGCTTTAGC AACTATGGGT	6720
GGTAAAGCCC TTGGTCTCTT GCCAGTTGTT ATTGCTACAG GTTTGTCTTA CTCGATTGCT	6780
GGTAAGCCAG GGATTGCACC AGGTITTGTT GTTGGTCTAA TTGCCAATTC TGTGTTTCA	6840
GGGTTTATCG GTGGTATCTT GGGAGGTAT ATAGCTGGTT TCTTGGTTCA AGCGATTATT	6900
AAAAAGGTCA AAGTACCAA CTGGATTAAA GGTTTAATGC CAACCTTGAT TATTCCTTTT	6960
GTAGCCTCTT TGTAAGTAG TTTGATTATG ATTTATATTA TTGGAGCGCC TATCGCAGCC	7020
TTTACCAACT GGTGACGAG CTTATTACAA AGCTTGGGAA GTGCTTCAA TGGTTTGATG	7080
GGGGCAGTTA TTGGAATCTC CAGTGCTGTT GACTTTGGTG GCCCACTTAA TAAAACAGTC	7140
TATGCGTTTG TGTGACTTT ACAGGCTGAA GGTGTGAAAG AACCAATTGAC TGCTTTACAA	7200
TTGGTGAATA CTGCTACACC AGTTGGATTT GGATTGGCCT ATTTTATCGC GAAATTACTC	7260
AAAAAAATA TCTATACTCA AGAGGAAATC GAAACATTGA AATCGGCTGT TCCTATGGGG	7320
ATTGTCAATA TTGTTGAAGG TGTAAATCCG ATTGTATGA ATAACCTGGT TCCAGGTCTC	7380
ATTGCAACAG GTATCGGTGG TGCTGTTGGT GGTGCTGTTT CTTTGACAAAT GGGTGCTGAT	7440
TCTGCTGTGC CATTTGGTGG AGTGCTTATG TTACCAACCA TGA CTGCTC AGTAGCTGGT	7500
ATTTGTGCCT TGTTAGCTAA CATGTAGTC ACAGGACTTG TCTACGCGAT TTTGAAAAAA	7560
CCAATAAAAC ATGCAGAAC AGTTATGACT GTTGAAGAAG AGATTGATT GTGAGATATT	7620
GAAATTTTGT AAGAGGGTAA CGATGTCAAG AATTGAATTT TCACCATCTT TGATGACCAT	7680
GGATTGAC AAATCAAAG AGCAGATTAC TTTTGAAT GATAAAGTAG CATCTTATCA	7740
TATCGATATT ATGGATGGCC ATTTGTGTTCC CAATATTACC TTGCTCTCCTT GGTTCAATCA	7800
AGAAGTTCAA AAAATTAGTG ACACACCTTT ATCAGTTCAT CTGATGGTCA CAGACCCAAC	7860
CTTTGGGTA GATCAAGTTC TCGATTTACA ATGTGAGTAT ATTTGTATTC ATGCTGAAGT	7920
TCTGAATGGT CTGCTTTTC GTTTGATTGA TAAAATTCAT GATGCAGGTC TAAAGGCTGG	7980
TGTTGTCCTT AATCCTGAAA CACCTGTTTC TACAATCTTT CCCTACATTG ATTTACTTGA	8040

450

CAAAGCAACT ATTATGACTG TAGATCCAGG TTTTGCAGGA CAACGCTTTT TGGAGTCTAC	8100
CTTCTATATA ATCCAAGAAC TCCGTCAGCT TAGAGTTCAG AATGGTTATC ACTACATCAT	8160
TGAGATGGAT GGTTCCTCGA GTCGTAAGAC TTCAACAA ATTGATGTGG CAGGACCAGA	8220
TATTTATGTT ATAGGTCGCA GTGGATTATT TGGTTTGGAT GACGATATTG CCAAAGCCTG	8280
GGATATCTGT TCTAGAGATT ACGAAGAAAT GACCGGAAAA ACAATGCCAA TCAAATAATG	8340
GTTTGAGAAG AAATTTATTA GTTAGGAGGA ATATATGTCA CTACAATCAG TTAACGCCAT	8400
TCGTTTCTTT GGCCTAGATG CTATTAACAA ATCTAATTCT GGTCAACCCG GAATTGTCAT	8460
GGGTGCTGCG CCAATGGCTT ATAGCCTATT TACAAAGCAC CTTAGAATTA CACCTGAGCA	8520
GCCAACTGG ATTAACCGAG ATCGCTTTAT CTTGCTGCG GGTGATGGAT CAATGCTACT	8580
GTATGCTCTC TTGCATTAA CAGGGTATAA GGATGTATCC ATGGACGAGA TTAAAAATTT	8640
CCGGCAATGG GGATCTAAGA CACCTGGTCA TCCTGAAGTG ACGCATACGT CTGGTGTGGA	8700
TGCACATCT GGTCCGCTTG GTCAGGGGAT TTCTACTGCC GTTGGTTTCG CCCAAGCAGA	8760
GCGTTTTTTA GCTGCTAAGT ACAACAAAGA TGGTTTCCCT ATTTTGTACC ATTATACTTA	8820
TGTTATCGCT GGAGACGGTG ACTTCATGGA AGGAGTCTCT GCGGAGGCG CTTCTTATGC	8880
AGGTCATCAA GCTTTAGATA AGCTTATCGT CCTCTACGAC TCCAACGACA TCTGCTTGA	8940
TGGTGAGACC AAAGATACTT TCTCTGAAAA TGTTCGCGTC CGTTACGATG CTTATGGTTG	9000
GCATACAGTT CTGGTAGAAG ATGGAACAGA TTAGCAGCA ATTTCTACAG CAATTGAGAC	9060
GGCCAAGTTT TCTGGTAAAC CGAGTTTGAT TGAAGTAAA ACGGTAATTG GTTACGGCTC	9120
ACCCAATAAA AGTGGTACAA ATGCTGTTC TGGTGCACCA CTAGGAGCAG AAGAAACAGG	9180
AGCAACTCGT AAGTTTTTGG GATGGGATTA CGATCCATTT GAAGTACCAG AGGAAGTATA	9240
TTCTGATTTT AAGACAAATG TAGCGGATCG TGGTCAGGAG GCATACGATG CTTGGGCTAG	9300
TTTGGTGTCT GATTACAAGG TTGCTTATCC CGAAGTTGCT AGTGAGATTG ACGCTATTGT	9360
AGCTGGAAAA TCCCCTGTAA CCATTACTGA AAAAGACTTC CCTGTCTATG AGAATGGCTT	9420
CTCTCAAGCA ACTCGTAATT CGTCCAAGA TGCTATTAAT ACAGCAGCAG TTTTACCAAC	9480
CTTCTTAGGT GGATCGGCAG ACTTAGCTCA CTCTAACATG ACCTACATCA AGGCAGATGG	9540
CTTACAAGAT AAATATAATC CATTAAACCG CAATATTCAG TTTGGGGTAC GTGAATTTGC	9600
CATGGGAACA ATCCTCAATG GAATGGCTCT TCATGGTGGT TTACGAGTTT ATGGCGGAAC	9660
CTTCTTTGTT TTCTCTGACT ACGTCAAAGC TGCTATTTCG CTATCAGCCA TTCAGGAGTT	9720
GCCTGTAACT TATGTCTTTA CCCATGATTC AATTGCCGTT GGTGAAGATG GTCCAACTCA	9780
TGAACCAGTT GAACATTTGG CAGGTTTACG CTCAATGCCA AACTTGACTG TTATCCGTCC	9840

451

AGCGGATGCC CGTGAACTC AAGCGGCTTG GCATCATGCC TTGACCAGTA CCACCACTCC	9900
AACTGTCATT GTCTTAACCC GTCAAACTT GGTAGTTGAA GAAGGGACAG ACTTTGGTAA	9960
GGTCGCTAAA GGAGCCTACG TCGTGTATGA TACCCCGGA TTTGATACTA TTATCATTCG	10020
TACAGGATCT GAGGTCAATC TAGCTATCAA AGCTGCTAAG GAATTGGTTT TACAAGGTGG	10080
TAAAGTACGT GTGGTATCTA TGCCCTCAAC CGAACTATTT GATGCTCAAG ATGCTACCTA	10140
CAAGGAAGAC ATTTTACCAT CTAAGACTCG TCGTCGTGTG GCCATTGAAA TGGCAGCGAC	10200
CCAAAGTTGG TACAAGTATG TTGGTTTGA TGGCGCGGTC ATCGGTATTG ACATCTTCGG	10260
TGCGTCTGCC CCAGCTCAGA CTGTGATTGA TAATTATGGA TTTACGGTAG AGAATATCGT	10320
TGCTCAAGTT AAGTCCCTAT AGAAACCAAT TACAATGAAG ATACAGCTGT TGTCAGACTA	10380
GCAGATGTAG TGATAGACAC TAATCAGATG ATTGGTTATT TAAAACTGT AATGAAAATG	10440
TAATAATTTA TCTACGAAAG TTATAGTAGA TAGTATACAC AATAGAGTAT ACCCTGAAAC	10500
GGTTGCGAAG TACGCTAATC ACTTTGCTAC TGATCTAGAT AGTTTCTTTA ATCAATAAAC	10560
ACAGCATCCA CAGATTGACT TAGGATATTG TAAGTTTTTT GAAAGCTAGA GAGAAGGTCT	10620
CTAAAATTAA AAAACGCATA GTATAGGATG TTGAAATGAT GAACTGCACC CAAAAGTTA	10680
GACAGAAAAA AATCTAACTT TTGGGGTGTT TTTATTATGA AATTAACCTA TGATGATAAA	10740
GTTCAGTTCT ATGAACCTAG AAAACAAGGA TATATCTTAG AGAAGCTTTC AAATAAATTT	10800
GGGATAAATA ATTCTAATCT TAGGTACATG ATTAAATGA TTGATCGTTA CGGAATAGAG	10860
TTTCGTCAAAA AAGGGAAAAA TCGTTACTAT TCTCCTGAT TAAAACAAGA AATGATTGAT	10920
AAAGTCTGAC ATGAAGGCTG GACTAAAGAT AGAGTTTCTC TTGAATACGG TCTCCCAAGT	10980
CGTACGATAC TTCTTAACTG GCTAGCACAA TACAGGAAAA ACGGGTATAC TATTGTTGAG	11040
AAAACAAAAG GGAGAGTACC TGAGAGCGCA GAATGCCATC CTAAGAAAGT TAAGAGAACT	11100
CCGATTGAAG GAGGAAAAAG AGAAATAAGA AAGACAGAAA TTGTTCAAGA ATTAAATGACT	11160
GAGTTTTCGT TAGATCTTCT TCTAAAAGCC ATTAACTAG CTCGTTGGAC CTACTACTAT	11220
CACTTGAAAC AGCTAGATAA ACCAGATAAG GACCAAGAGC TTAAAGCTGA AATCAATCC	11280
ATCTTTATCG AACACAAGGG AGATTATGCT TATCGCCGGG TTCATTTAGA ACTAAGAAAT	11340
CGTGCTTATC TGGTAAATCA TAAAAGAGTT CAAGGCTTGA TGAAAGTACT CAATTTACAA	11400
GCTAGAATGC GACAGAAACG AAAATATTCT TCTCATAAAG GAG	11443

(2) INFORMATION FOR SEQ ID NO: 50:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 5338 base pairs

452

(B) TYPE: nucleic acid
 (C) STRANDEDNESS: double
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 50:

CCAATTACAT TATATTATCA AAATCGTCGA AACTGGCTCC ATGAATGAGG CAGCCAAGCA	60
ACTCTTTATC ACTCAGCCAA GTCTCTCCAA TGCAGTCCGA GATTTGGAAG ATGAAATGGG	120
CATTGAGATC TTTATCCGCA ATCCCAAGGG AATCACCTTG ACCCGTGATG GCATGGAGIT	180
TCTCTCTTAT GCCCGTCAGG TTGTCGAGCA GACCCAGCTT CTGGAGGAAC GCTATAAAAA	240
TCCTGTGCCC CACCGCGAAC TCTTTAGCGT TTCGTCTCAA CACTATGCCT TTGTGGTCAA	300
TGCCTTTGTC TCTTTGCTCA AGAAAAGCGA TATGGAGAAA TACGAACTCT TCCTTCGTGA	360
AACTCGGACT TGGGAGATTA TCGACGACGT CAAGAACTTC CGCAGTGAGG TCGGGGTCCT	420
CTTCTTAAAC AGTTACAACC GTGATGTTTT AACCAAGATG CTGGATGACA ATCACCTGCT	480
AGCCCACCAT CTCTTCACAG CGCAACCGCA TATCTTTGTC AGCAAGACCA ACCCTCTGSC	540
AAAGAAAGAC AAGGTGAAAC TGTCTGATTT GGAGAATTC CTTACCTCA GCTATGACCA	600
AGGGACGCAC AACTCCTTCT ACTTTTCAGA AGAGATTCTT TCTCAAGAAC ACCACAAGAA	660
ATCCATGTG GTGAGTGACC GTGCCACCCT CTTAATCTC TTGATTGGTT TGGATGGTTA	720
TACCATTGCG ACAGGGATTT TGAACAGCAA CCTAAACGGA GACAATATCG TTTCTATCCC	780
ACTGGATATT GATGACCCGA TCGAGCTGGT CTATATCCAG CATGAGAAAA CCAGCCTATC	840
TAAGATGGGC GAACGCTTTA TAGACTATCT CCTAGAAGAA GTTCAGTTTG ATAGTTGAGA	900
AATGATAAGA ACCAATATGT AGGCTAGCAA CAACCTGCAC ATTGGTTCTT TTTACTTATA	960
ATTAAAAGTT TCCCCTGCCA ACTTATCAGC TAGCTTGGGA AAGAGAGTAT AAAACTTATG	1020
GGCTAGGTTT AAAAAATCG GGAGATTGAG TTCTCGTTTG TTTTTCCTA TAATCTTGAC	1080
AATCTTTTGA GCCACTGCAT CTGGTTCTAG CAGGAAGCGA TCAACCGATT TAAGATAAGT	1140
TCCATCTGGG TCGGCTTGGT CGAAAAATCC TGTACGGATT GGTCTGGAT TGAATGTTGT	1200
CACATAGACT CCATAGGGCA TAAGTTCGAG TCGCAGAGCA TTTGAAAAAC CAATAGCCGC	1260
AAACTTGGTC GCTGAGTAAA GACTAGACTT GCCAGTAGCT ATTAGACCTG CCATGCTGAC	1320
GATGTTGATG ATATGCCCTT TGCTGCTTTC CTTTATACGA GCCGCAAGGT GACGAGACAG	1380
ATTATCAGG GCAAAGGTAT TGACCTCAA CATCTGGTGA ATATCTTTAT CAGCAATCTG	1440
GTCAAATCCC TCAAAAAATCC CGTAACCACC GTTGTAAATC AAGACATCAA TCTTGCCATA	1500
GCGGAGATAA AGATCAGTTA CCAGAGCTTC TAGGGCTGAA TCGTCGGTAA TATCAATTTT	1560

453

AATCAATTCT GCATGGGAAT AATTTCGGTA GAGTTGGGCT AATTTTCCT TATTTCTACC	1620
AAGCAAGATG AGTTGGTCAT TGGGCAGGAG TTTGACCATT TCTTGAGCTA GACCACCGCT	1680
AGCTCCGGTA ATGAGAATAG TAGGCATACT TATCCTTTCT GTGACTGCTA GATTTCCACT	1740
TCTTCCAAGT CTTTGACCAC ATGGACATTT TCAAAAATTG TGGCAGCGTC TTTCTTGAGT	1800
TTGCTAATAT CTTTGTAGAG GAAACGGGCA CTGATATGGT TGAGTAGGAG GCGTTTGGCA	1860
CCTGCTTCTA CCGCTACTTG TGCAGCTTGC ATATTACTTG AGTGACCATG GTTACGAGCA	1920
ATTTTTTCAT CACCCTTGCC ATAAGTGGAC TCATGAACTA GGACATCTGC ATTGACAGCC	1980
AGACGCACAC TGGCACCCGT TTTTCGAGTG TCTCCTAAAA TAGTGATAAT CTTACCTGGA	2040
CGTGGCGCTG AGATATAGTC TGCTGCCTTG ATTTTCAGTTC CGTCTTCCAA AACAGATCC	2100
TGGCCGTTTT TGATTTTACC AAAAAGCGGG CCGAACGGAA CACCAGCAGC CTTGAGTTTT	2160
TCAGCATCCA GCGTCCCTTC TAGATCCTTT TGCATGACAC GATAGCCAAC ACAGAAAATA	2220
GTGTGGTCCA GCTCCTCTGC ATACACAGTG AATTTATCGG TTTCAAGAAT TTTACCCAGA	2280
GAATCTTGGT CAAACTCATG GAAATGAATG CGGTAGGGCA GACGAGAACC TGACACACGA	2340
AGGCTGGTTA AGACAAATGA CTTGATTCCT TGAGGTCCGT AGATTTCCAA ATCTGTCTGC	2400
TCTTCATTGG CCTGAAAGGC ACGGCTAGAA AGGAAACCTG GCAAACCAAA AATGTGGTCT	2460
CCATGCAGAT GGGTAATAAA GATTTTGCTG ACCTTACGTG GTCGAATTGT GGTTCACAGA	2520
ATGCGATTTT GCGTACCTTC TCCACAGTCA AAGAGCCAAA CTTCGTTAAT CTCATCCAAA	2580
AGTTTCAGGG CGAGACTTGA AACGTTGCGG GCTTTAGAGG GCTGACCAGC CCCCCTTCCT	2640
AAAAATTGAA TATCCATTCTG ATACTTTCTA ATTAATCAAT ATATAACATG GCTGTGCGGT	2700
TTTCCGATCG GAAATAGCGT TTGCCAGAAA AAGCAGCAGC TTCTTGCAAT AAATCCTCTT	2760
GGCTGTAGCC TTTGAGACGT TTTGACCAT CAGCCAATCT TTCCAAATCA GTCAAAGCTC	2820
TGAGACTTTC TAGGCTGATA ACTTCCTCGT CCTCGACAGG CTTCATGTAA ATCTTACCAG	2880
ACTCTTCAAA GACTAATTGA TGGGGGAAAA TTTGCGCAAT TTCAAAGAGC AAGTCATCCG	2940
AGATTTTCTC CTCATTTTCA AAGAAAATCC GACCAAGGCC GTCACCTCA TAACAAAAAC	3000
CAAAGGATTT ACCAGACAGA TTAAGCCGAA TAAAAGGCTT ATTTTCTAGG GTGAAACTTG	3060
GCTCAGTATT GTAAAGATTC AGTTCCTGAC TGAGTCTGTC AAAATAATCC GTCGAGCCT	3120
GAGGACTCTT TTTCTGATAG AGTTCTGCAA AGTAGGCATT AACAACTT GGCGGAGGTG	3180
TAATAAGTGT TAACTGCTCC TGATCTGTTT TACCAGCTAG AAGCTGATCC AGATAGACCT	3240
TGTCCAGACT TGTATAACCT CCATACTTIA GAGCCAAAGT TTTAATATCA GTCATAAAAT	3300

454

TCTTCTAACC	TCCATTTATT	TTTCTCGGAA	ATGTAGCCTG	TAATCACTTC	GCCGTCTTCC	3360
TGATAATCAC	GTICTTCCAG	AATTGCAACA	CTCTCTAAAT	CATGAATCTT	GTAGGACTTT	3420
GAAAAAGGCA	CTCGCAGGGT	AAATGCTTCA	AAAATTTCTT	TAATCTTATC	TAGCAATAAT	3480
GCTTGCAAGT	TTTCACGACT	GTCCCTCAGAC	TTGGCAGAAA	TGAGGGTATA	TGGCGTTTGG	3540
GTAGGCGTGA	AATCCTCCAC	CAAATCCGCT	TTATTATAAA	GCGTCAAGTG	AGGAATATCT	3600
TCCATGTCCA	GGTCTTTCAT	GATGGAGAGA	ACCGTTTTTT	CATGCTCCTC	GTGGTAAGGA	3660
TTGCTAGCAT	CGATAACATG	AACCAGAAGG	TCCACATGCT	TGCTTCTTTC	CAAGGTTGAC	3720
TTGAAACTGG	ACACCAACTC	TGTCGGCAAA	TCTTGATAAA	AGCCAACGGT	ATCTGTCAAA	3780
GTTACTTGGA	GATTGCCTCC	CAGATGAATA	CTCTTGTTTG	TCGCATCCAG	AGTCGCAAAG	3840
AGCTCATCTG	CTTCATACTG	GGTCTTACTG	GTCAAGATGT	TCATGATAGT	TGATTTCCCA	3900
GCATTAGTAT	AACCAATCAA	ACCAATCTTA	AAAGTGCTAG	ACTCCAAACG	TTTTTCTCTG	3960
ACAGTCGCAC	GATTTTTCTC	AACCACCTTG	AGCTGGGCGT	CGATATCCGT	GATTTGATTG	4020
CGAACGCTAC	GACGGTTCAG	CTCCAGCTGG	CTTTCACCAG	GACCACGGGA	ACCAATTCCC	4080
CCTgCCTGAC	GGCTGAGCAT	AATCCCTTGA	CCAACCAAGC	GAGGCAAAAG	GTATTTGAGT	4140
TGGGCTAGGT	GGACTTGGAG	CTTCCCTTCA	TGGCTTCGAG	CCCGCATGGC	AAAGATATCC	4200
AAAATCAACT	GCATACGGTC	AATGACCTTA	ACACCGAGAA	CTTCCTCTAG	ATTGACATTC	4260
TGCTTGGGG	TCAGACGATT	GTTGACGATG	ACAGTAGTGA	TTTCTTCTGC	ATCCACCATA	4320
AGCGCAATCT	CTTCCAACCT	ACCAGAGCCG	ACGAAGGTCT	TGGAATCATA	TTTTTCACGT	4380
TTTTGTCTGT	AGCTATCTAC	AACGACTGCC	CCTGCCGTTT	TCGCTAAACT	AGCCAATTCT	4440
TCCATGGAGA	GGTCAAAACT	GTCCATACCC	TGCAATTCCA	CACCAATCAG	CAGGACTCGC	4500
TCCTCTTTTT	TCTCCGTTTC	AATCATCTAA	AAACTCCTCT	ATCTGGCTTA	AAATGCGGTC	4560
TTGTACACCA	GATTCTCCAA	TCTGATAAAA	GGTGACCTGC	ATGCGATTAC	GGAACCAAGT	4620
CAGCTGACGC	TTGGCAAAAC	GACGAGTCGC	CTGTTTAAGA	CTCTCACTAG	CTTCCTCCAA	4680
GGTCTGCTCT	CCACGGAAAT	AAGGAAAGAG	TTCCCTTATAG	CCAATTCTCT	TAGCAGCCTG	4740
TACATTAGGG	GAATGGTCAA	ACAGCCACTT	GGCCTCATCC	AAAAGCCCAG	CCTCAAACAT	4800
CAAATCCACT	CGGTGGTTGA	TACGCTCATA	AAGTTGACTA	CGTTCATCAT	CCAAGCAGAT	4860
AATCAGCGGT	TCATACAAGG	TCTCTTGATT	TTCCAAATCC	TGACCAAAAT	GGGCAATTTT	4920
TAAGGCACGC	ATAGCACGAC	GACGATTAAA	CTGGGGAATC	TCAAGGCCTG	CTTGATCCAC	4980
CAAATGGGCT	AATTCCTCAT	CTGAATATGG	CTCCAAACTA	GCTCGATAAG	CTAAAATCTC	5040
CTCATGAGGA	GTCTCCCCAC	CTAGGTGGTA	ACCTTCTAGC	AAGCTCTGGA	TATAAAGTCC	5100

455

AGTCCCACCG GCGATAATGG CTAGCTTGCC ACGGTTGTGA ATACCCCTCAA TAGTCATCTT	5160
AGCTTCTGAA ACAAAATCAA AAGCCGAGTA AGACTCGGTT ATCTCTCTAA CATCGATTAA	5220
ATGATGAGGA ACAGCTGCCT GCTCTTCTGG ACTAGCCTTG GCCGTCCCAA TATCAAGTCC	5280
TCGATAGACT TGCTGGCTAT CTCCACTAAC CACTTCGCCA TTAAAACGCT TTGCGGG	5338

(2) INFORMATION FOR SEQ ID NO: 51:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 19446 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: double
 - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 51:

CGGAAACCCA TCTAGTCTCC ATCGTTTGGG AGACCAAGCA ACACGAATCT TAGATGCTTC	60
TCGCCAACAG ATTGCAGATT TAATCGGTAA GAAAAGCGAT GAAATCTTCT TTACCTCGGG	120
TGGAACAGAA GGGGATAACT GGCTTATCAA GGGTGTGGCC TTGAAAAAG CTCAGTTTGG	180
CAAGCACATC ATTGTTCAG CCATTGAACA TCCAGCAGTC AAAGAGTCAG CCCTCTGGTT	240
GAAAAGTCAA GGATTGAAG TGGATTTTGC TCCAGTTGAT AAGAAAGGCT TGGTCGATGT	300
TGAGGCGTTA CAGGTTTGT ACGGCATGAT ACAATCCTCG TTTCCATCAT GGCTGTGAAC	360
AATGAAATCG GCTCTATCCA ACCTATTGAG GCTATTTTCT AATTCTTGGC AGACAAGCCG	420
ACTATTTTCT TCCACGTTGA TCGGTTTCT GCGCTTGCCA AAATCCGAC TGAAGATAT	480
CTGACAGAAC GGGTGGATTG CGCGACTTTC TCTAGTCACA AGTCCACCG GTTCGAGGT	540
GTGCTTTTG TCTATATCAA ATCTGGCAAG AAGATTACAC CTCTTCTTAC AGGTGGTGGC	600
CAGGAGCGAG ATTATCGTTC GACAACTGAA AATGTGGCAG GGATTGCAGC GACAGCCAAG	660
GCCCTCCGTT TGTCTATGGA AAAGCTAGAT ATCTTTAGGA GCAAGACTGG GCAGATGAAG	720
GCAGTGATTC GCCAAGCTCT TCTGAATAT CCGGATATTT TTGTCTTTTC AGATGAGGAA	780
AACTTTGCAC CTCATATTCT GACTTTTGA ATCAAAGGTG TTCGAGGTGA AGTCATCGTT	840
CACGCCTTTG AAGACTATGA TATTTTCATC TCAACAACCT CAGCTTGTTT ATCTAAGGCA	900
GGAAAACCCAG CCGGTACCTT GATTGCCATG GGAGTGACA AAGATAAGGC CAAGTCAGCT	960
GTGCGTCTTA GCCTAGACTT GGAAAATGAT ATGAGTCAGG TCGAGCAGTT TTTGACCAAG	1020
TTAAAATTGA TTTACAATCA AACTAGAAAA GTAAGATAGG AGCATTTCATG CAGTATTCAG	1080
AAATTATGAT TCGCTACGGA GAGTTGTCAA CCAAGGGTAA AAACCGTATG CGTTTCATCA	1140

456

ATAAACTTCG TAATAATATT TCGGACGTTT TGTCTATCTA TACCCAAGTT AAGGTAACAG	1200
CAGATCGCGA CCGTGCCAC GCTTACCTCA ATGGAGCTGA TTACACAGCA GTTGCAGAAT	1260
CTCTCAAACA AGTTTTTGA ATTCAAAAC TTTCTCCTGT TTATAAGGTT GAAAAATCTG	1320
TAGAAGTTTT GAAGTCTTCT GTCCAAGAGA TTATGCGGGA CATCTACAAG GAAGGTATGA	1380
CCTTTAAGAT TTCTAGCAAG CGTAGCGACC ACAACTTTGA ACTTGATAGT CGTGAACCTCA	1440
ACCAAACACT TGGAGGGGCT GTATTGGAAG CCATTCCAA TGTGCAAGTT CAAATGAAAA	1500
GTCCTGACAT CAATCTTCAG GTGGAGATTC GTGAAGAAGC AGCCTATCTT TCTTATGAAA	1560
CCATTCGTGG GGCTGGTGGT TTGCCAGTTG GAACTTCAGG TAAAGGGATG CTCATGTTGT	1620
CAGGAGGGAT TGACTCACCT GTAGCAGGTT ATCTTGCTCT TAAGCGTGGG GTGGATATCG	1680
AGGCAGTTCA CTTTGCTAGT CCACCATATA CTAGTCCTGG TGCCCTCAAG AAAGCGCAGG	1740
ACTTGACCCG TAAATTGACC AAGTTTGGCG GAAATATCCA GTTTATAGAG GTGCCTTTCA	1800
CAGAGATTCA AGAGGAAATC AAAGCCAAAG CGCCAGAAGC TTATTTGATG ACTCTAACTC	1860
GTCGCTTTAT GATGCGGATT ACTGACCGTA TTCGTGAGGT ACGAAATGGT TTGGTTATCA	1920
TCAATGGGGA AAGTCTAGGT CAAGTAGCCA GCCAAACCCT TGAAAGTATG AAGGCTATCA	1980
ATGCTGTTAC CAACACTCCC ATCATTCGTC CTGTGGTTAC CATGGACAAG TTGGAAATCA	2040
TTGACATCGC CCAGGAAATC GATACCTTTG ACATTTCAAT CCAACCGTTT GAAGACTGTT	2100
GTACCATTTT TGCACCAGAT CGTCCAAAA CAAATCCTAA AATTAAGAAT GCGGAGCAGT	2160
ACGAAGCGCG TATGGATGTT GAAGGCTTGG TTGAGCGAGC AGTGGCTGGA ATCATGATTA	2220
CTGAAATCAC ACCTCAAGCC GAAAAAGATG AAGTTGATGA CTTGATTGAC AATCTGCTCT	2280
AATTCAGAAA ATCCAAAAGA ATAGCGAAAA TCAGTAAAAA AAGTTAGTTT TTTCTCTAAA	2340
AACAGGTAAT AAACCTAACTT TTTTATTTT TATGATATAA TGATATAAAA TTTTGAATAT	2400
AGAGAGTTTT CTGACAATGA ATCAATCCTA CTTTATCTA AAAATGAAAG AACACAACT	2460
CAAGGTTTCT TATACAGGTA AGGAGCGCCG TGTACGTATT CTTCTTCCTA AAGATTATGA	2520
GAAAGATACA GACCGTTCCT ATCCTGTTGT ATACTTTCAT GACGGGCAAA ATGTTTTTAA	2580
TAGCAAAGAG TCTTTCATG GACATTCATG GAAGATTATC CCAGCTATCA AACGAAATCC	2640
GGATATCAGT CGCATGATTG TCGTTGCTAT TGACAATGAT GGTATGGGGC GGATGAATGA	2700
GTATGCGGCT TGGAAGTTCC AAGAATCTCC TATCCCAGGG CAGCAGTTTG GTGGTAAGGG	2760
TGTGGAGTAT GCTGAGTTTG TCATGGAGGT GGTCAAGCCT TTTATCGATG AGACCTATCG	2820
TACAAAAGCA GACTGCCAGC ATACGGCTAT GATTGGTTCC TCACTAGGAG GCAATATTAC	2880
CCAGTTTATC GGTTTGGAAT ACCAAGACCA AATTGGTTGC TTGGGCGTTT TTTTCATCTGC	2940

457

AAACTGGCTC	CACCAAGAAG	CCTTTAACCG	CTATTTTCGAG	TGCCAGAAAC	TATCGCCTGA	3000
CCAGCGCATC	TTCATCTATG	TAGGAACAGA	AGAAGCAGAT	GATACAGACA	AGACCTTGAT	3060
GGATGGCAAT	ATCAAACAAG	CCTATATCGA	CTCGTCGCTT	TGCTATTACC	ATGATTTGAT	3120
AGCAGGGGGA	GTACATCTGG	ATAATCTTGT	GCTAAAAGTT	CAGTCTGGTG	CCATCCATAG	3180
TGAAATCCCT	TGGTCAGAAA	ATCTACCAGA	TTGTCTGAGA	TTTTTTGCAG	AAAAATGGTA	3240
AGTTAAGAAA	GGAAAAACG	AAATGCATAT	TGAACATCTT	AGCCACTGGA	GTGGTCATCT	3300
TAACCGTGAA	ATGTACCTTA	ACCGTTATGG	ACATGGTGGG	ATTCCAGTTG	TGGTCTTTGC	3360
TTCATCAGGT	GGTAGTCACA	ACGAATACTA	TGATTTTGGC	ATGATTGATG	CCTGTGCTTC	3420
CTTTATCGAG	GAAGGCCTTG	TCCAGTTCTT	TACCCTATCT	AGTTTGGATA	GTGACAGCTG	3480
GTTGGCTACT	TGGAAAAATG	CTCATGACCA	AGCGGAAATG	CACCGTGCCT	ACGAACGTTA	3540
TGTGATTGAG	GAGGCCATTC	TTTTATCAAG	CACAAGACAG	GTTGGTTTGA	TGGCATGATG	3600
ACGACAGGTT	GCTCTATGGG	AGCCTATCAT	GCACTCAATT	TCTTCCTCCA	GCATCCAGAT	3660
GTCTTTACCA	AAGTGATTGC	TCTCAGTGGT	GTTTACGACG	CACGTTTCTT	TGTCGGTGAT	3720
TACTACAACG	ATGATGCTAT	TTACCAAAAC	TCGCCAGTAG	ATTATATTTG	GAACCAAAAC	3780
GACGGCTGGT	TTATTGACCG	TTACCGTCAG	GCAGAGATTG	TGCTGTGTAC	GGGGCTTGGA	3840
GCCTGGGAAC	AAGATGGTTT	GCCATCCTTT	TACAAGCTCA	AAGAAGCCTT	TGACAAGAAA	3900
CAAATTCAG	CCTGGTTTGC	TGAATGGGGA	CATGATGTCG	CCCATGACTG	GGAATGGTGG	3960
CGTAAACAAA	TGCCTTATTT	CCTCGGTAAT	CTCTATTTAT	AAAAGGAGTT	ACCTATGAAT	4020
TACCTTGTTA	TTTCTCCCTA	CTATCCACAA	AACTTTCAAC	AGTTTACCAT	CGAACTAGCT	4080
AATAAAGGCA	TCACAGTCTT	GGGAATTGGT	CAAGAGTCTT	ACGAGCAATT	GGATGAGCCC	4140
TTGCGCAATA	GCTTGACCGA	GTATTTTCGT	GTGATAATC	TTGAGAACAT	AGATGAAGTC	4200
AAACGTGCAG	TTGCTTTTCT	CTTTTATAAA	CATGGTCCAA	TTGGCCGCAT	CGAGTCTCAC	4260
AATGAATACT	GGCTTGAGCT	AGACGCAACA	CTCAGAGAAC	AATTC AATGT	TTTTGGTGCC	4320
AAACCAGAGG	ATCTCAAAAA	GACGAAATAT	AAGTCTGAAA	TGAAGAAACT	TTTCAAAAAA	4380
GCAGGTGTTT	CTGTGGTACC	TGGAGCTGTT	ATCAAGACGG	AAGCAGATGT	TGATCAAGCA	4440
GTGAAAGAAA	TCGGTCTTCC	AATGATTGCC	AAACCTGATA	ATGGAGTGGG	AGCAGCCGCA	4500
ACCTTTAAAC	TTGAGACAGA	AGACGATATC	AATCACTTCA	AGCAAGAATG	GGACCATTCA	4560
ACCCTTTAT	TCTTTGAAAA	ATTTGTCACT	TCCAGCGAAA	TCTGTACCTT	TGACGGGCTC	4620
GTGACAAGG	ATGGAAAGAT	TGTCTTCTCA	ACAACCTTTG	ACTACGCCTA	TACACCGCTT	4680

458

GACCTCATGA	TTTATAAGAT	GGACAATTCT	TATTATGTGC	TCAAGGATAT	GGATCCTAAA	4740
CTGCGCAAGT	ATGGGGAAGC	AATTGTCAAA	GAATTGGTA	TGAAAGAACG	GTTTTTCCAT	4800
ATTGAGTTCT	TCCGTGAGGG	GGACGATTAT	ATTACCATCG	AGTACAATAA	CCGCCCTGCA	4860
GGTGGTTTTA	CCATTGATGT	TTATAACTTT	GCTCATTCCT	TGGACCTTTA	TCGTGGCTAT	4920
GCAGCTATTG	TCGCAGGAGA	GGAGTTCCCG	GCGTCAGACT	TTGAAACTCA	GTATTGTTTG	4980
GCTACTTCTC	GCCGTGCAAA	TGCTCACTAT	GTTTATTCAG	AAGAGGATTT	GCTTGCCAAA	5040
TATAGCCAGC	AGTTCAAGGT	TAAAAAAGTC	ATGCCAGCTG	CCTTCGCGGA	ACTTCAAGGA	5100
GATTACCTGT	ATATGCTGAC	CACTCCGAGT	CGACAAGAAA	TGGAGCAGAT	GATTGCAGAT	5160
TTGCGACAAC	GTCAAGAATA	AGAACTATCG	GATTAAGGAA	ATTAACCTCC	TTAATCCTTT	5220
TGTTTTGTCT	GATAAAAAAT	AAGAGCATCC	CAACAAGGTA	GCTATCATAA	AACTGTTCG	5280
ATAACTATTT	GAAGCAGGAT	TAGGTGGTCA	GAAATTAAT	TTTAATATTT	CAATTGAGTC	5340
ATAGTATTGT	GTTTGCCTAT	CCTTAAATCA	GCTAAAAGGA	TCCATGACGA	CACCTATACG	5400
ATATAGTTTT	CAAGATACCA	AACAAGCTA	TTAATATTCA	ATGAAAATCA	AAGAGCAAAC	5460
TAGGAAGCTA	GCCGCAGGTT	TCTCAAACA	CTGTTTTGAG	GTTGTGGATA	GAAGTACAG	5520
AGTCAGTATC	ATATACTACG	GCAAGGTGAA	GCTGACGTGG	TTTGAAGAGA	TTTTCGAAGA	5580
GTATAAAATA	TTCAGGTGAC	GCATAGATAT	AGTTAATTGA	AGCTTTGTTT	GAAATCTGAT	5640
AAAATAATCA	TATTACTAAG	TTTTAAAAAC	TAAAGAAAAG	GGAAGATATG	ATTACAGGCG	5700
AATTAAAAAA	TAAAATCGAT	CAGCTGTGGG	AAATCTTTTG	GACAGAAGGA	AACGCAAATC	5760
CTTTAACAAA	TATTGAACAG	TTGACTTATC	TCTTATTTAT	GAAAGATTTG	GATAGTGTCG	5820
AGCTTGGACG	TGAAAGTGAT	GCTGAATTTT	TAGGGATTCC	TTATGAGGGA	GTTTTTCCAA	5880
AAGATAAACC	TGAATACCGT	TGGTCAACTT	TTAAAAATAT	AGGAGATGCT	CAGGAAGTTT	5940
ATCGTTTAAT	GACTCAGGAG	ATTTTTCCGT	TTATTAAAAA	TCTCAAGGGG	GATACAGATG	6000
ATACAGCCTT	TTCACGATAT	ATGCGAGAAG	CTATTTTTC	AATAAATAAA	CCTGCTACGC	6060
TTCAAAAGGC	AATTTCTATC	TTAGATGTTT	TTCCAACCTAG	GGGATTAGAT	GTAGATTTTG	6120
ATAATGACAA	ACAAAGTATT	ACTGATATCG	GAGATATCTA	TGAATATCTG	TTATCAAAAT	6180
TGTCGACCGC	AGGTAAAAAT	GGACAGTTCC	GTACACCTCG	TCACATCATC	GATATGATGG	6240
TTGAGTTGAT	GCAACCGACT	ATCAAAGATA	TCATCTCAGA	TCCCCTATG	GGTTCCTGCTG	6300
GCTTCTTAGT	ATCTGCTAGC	CGTTACTTAA	AGCGTAAGAA	AGATGAATGG	GAAACCAATA	6360
CAGATAATAT	CAATCATTTT	CATAATCAGA	TGTTTCATGG	AAATGATACG	GATACGACTA	6420
TGTTGAGACT	TGGGGCGATG	AACATGATGC	TACATGGAGT	AGAAAATCCA	CAAATCAGTT	6480

ACCTTGACTC GCTGCTCTCA GATAATGAAG AAGCCGATAA ATATACTTTG GTTTTAGCAA	6540
ATCCTCCTTT TAAGGGCTCA CTTGACTACA ATTCAACCTC TAATGACCTT CTTGCAACCG	6600
TAAAAACCAA AAAACAGAA TTACTCTTTC TTTCTCTTTT CTGCGAACT TAAAAACCAG	6660
GTGGACGAGC AGCAGTTATC GTACCTGATG GTGTCCTTTT TGGTTCGTCT AAAGCTCATA	6720
AAGGAATTCG TCAGGAAATT GTAGAGAATC ATAAGCTTGA TGCTGTAATC TCAATGCCTA	6780
GTGGTGTGTT CAAGCCTTAT GCTGGAGTTT CAACTGCCAT TCTCATCTT ACAAAACTG	6840
GTAATGGTGG TACTGACAAA GTCTGGTTTT ACGATATGAA AGCGGATGGT TTAAGTTTGG	6900
ATGATAAGCG ACAACCGATT AGCGACAATG ATATTCAGTA TATTATCGAA CGCTTTCATC	6960
ATCTTGAAAA AGAAGCAGAA CGTCAGAGAA CGGATCAATC TTTCTTTGTT CCAGTTGCTG	7020
AGATAAAGGA AAATGATTAT GATTTGTCTA TCAATAAATA TAAAGAGATT GAGTATGAAA	7080
AAGTTGAGTA TGAACCAACA GAAGTCATAT TAAAGAAAAT CAATGATTTA GAAAAAGAAA	7140
TTCAAGCTGG CTGGCTGAA TTGGAAAAAT TACTCAAGTA GGGAGGTGGC TGTATGAAAA	7200
AAGTGAAGTT GGGGAAGTC TTATCTCTAA AAAAAGGCAA GAAAGCCACT GTACTTGCTG	7260
AACAAACAAC TCTAAGCCAA CGTTATATTC AAATAGATGA TTAAAGAAAT AATAATAATT	7320
TAAATTCAC TGAAGTTTA AATATGACTG AAGCACTCCC AGATGATATT CTGATAGCAT	7380
GGGATGGAGC TAATGCAGGA ACAGTTGGTT ATGGATTATC GGGAGCTGTT GGTAGTACAA	7440
TTACGGTCTT AAAAAAGAAT GAGCGATACA AAGAAAAAT TATATCAGAT TACTTGGGAG	7500
TCTTTTGGGA AAGTAAATCG CAGTATTAC GAGATCATTC AACAGGTGCA ACAATTCCTC	7560
ATTTAAACAA GAATATATTA CTTGATTAC AATTAGAATT GCTAGGTATC GAAGAACAAG	7620
AGAACATTAT CTGTATTCTT AATACGATTA AAAGGCTTAT TACTAAAAGA AAATTTCAGT	7680
TAGATGAACT AAACCTGCTC GTCAAATCCC GATTTAACGA GATGTTTGGG GAAAATAAAA	7740
TATTTGAAAG CATTGATAAC TTATTTGATA TTATAGATGG TGATAGGGGC AAAAAATTATC	7800
CTAAATCAGA TGAGTTGTTT AGTGAGGAGT ACTGTTTATT TTTAAATACA AAGAATGTTA	7860
CTAAAAACGG ATTTTCATTC GATACAAAGC AATTTATCAC TAAAACAAAG GATAAATTAC	7920
TTCGAAAAGG CAAACTTGAG CGTTATGATA TAGTCTTGAC AACAAGAGGT ACTGTTGGAA	7980
ATGTAGCGTA CTACGATGAA TTAATAAAAT ATAAACATTT ACGTATAAAT TCAGGTATGG	8040
TAATATTACG TCCCAAGACA CCAATCTAA ATCAGAAATT TATTATCCAT GTTTTAAGGA	8100
ATAATAATTA TAGTCGAGTG ATATCAGGAA GTGCTCAGCC TCAGTTACCA ATTACAAAAT	8160
TAAAAAAAT ACTTCTCCCC CTCCCCCAC TAGCCCTCCA AAATGAGTTC GCAGACTTTG	8220

460

TAGTCCAGGT CGACAAATCA CAATTTGCTT GTGAGATAGC TATAAAAGTG TGGAGAAATA	8280
GCTTGAAATT TAGTATAATA TAGCTAAACT ATTTGTTTAA AGTGAGAAAA AAATGGGAAA	8340
TTTGTAGCTTT CTTTAAAAA ATGACGAATA TGAATCTTTT TCAAAACCTT GCATTGAAGC	8400
TGAGAAATATG ATTGCTACAT CAACTGTGGC TACTGCCTTT ATGGCGCGTC GTGCTTTAGA	8460
GCAGGCTGTC CATTGGATAT ATAGTCACGA TTCATATTTA GAAGCTCCCT ATCGTGCTAC	8520
TCTATCTTCT TTAGTATGGG ATGATGATTT TAGGGATATC GTAGATTCTG AACTCCACAA	8580
GCAGATAGTT CTGTTGATTC GGTGGGAAA CCATGCTGCT CATGGTGGTG AAATTAAGGA	8640
ACGAGAAGCG ATTTTAGCTT TGCATCATTT GTATCAGTTT GTTAATTTA TCGATTATTG	8700
TTACAGCAAT GACTTTGTGG AGCGTTATTT TGATGAGAAG TGCTTACCAC TTTCAGCAA	8760
CATCAAATAC CGAGAACTC CACAATCTAT GATAAAGTTA CAAGACAGTT TACCAGAACT	8820
GCCTGATTTT CATGAACAGA TGGCTGCTCA GTCCGTAGAA GTTCAAGAGA CTTATACTGA	8880
AAAACGTGAG ACTGCACGCG AACGGCAAGA TGTGCCTTTC CATATTGATC AATTATCTGA	8940
GGCAGAGACA AGAAAGCTCT TTATTGATAT CGATCTCCGT TTAGCAGGAT GGATATTTGA	9000
AGAAAAGTGT CGTGTGAGA TAGCCGTGA TGGTCTCAAG CACGGTTCAG GAATTGGTTA	9060
CTGTGACTAT GTACTTTATG GTAAAAATGG GAAATTTTA GCGATTGTGG AGGCTAAAA	9120
AGCCTCTGTC AATCCAGAAG TAGGGGAAGT ACAGGTCAA GAATATGCTG AAGCTTTGGA	9180
GAAACATATC GGCATCAGC CAATTTGCTT TATTACAAAT GGGTTGAAGC ACTATATACT	9240
TGATGGTCCG AACCGCCGCC AGATTGCAGG CTTTACTCT CAAGAAGAA TGCAATTAGT	9300
GATGGATAGA CGTCATCTTC AAAAACCCTT TGAGGATATT TCTAGTAAAA TTAGGGACGA	9360
TATTTCCGGG CGTCACTACC AAAAACATGC CATTGCAAGC GTTTGTGAAG CTTTCTCTGA	9420
TCATCGTAGA CAGGCACTTT TGGTTATGGC AACTGGGGCG GGGAAAACTC GTACAGCAGT	9480
TTCTCTAGTT GATATCTTAT CACGTCATAA CTGGGTAAAA AACGTTCTCT TCTTAGCCGA	9540
TAGAACTTCC TTGGTTAAGC AAGCATATGA TTCGTTTGA AAATTACTCC CAGATCTTTC	9600
CGTTTGTAAC TTCTTAGAAG ATAAAGAAG AGCTCAATCA AGTCGCATGG TCTTTTCAAC	9660
TTATCCGACC ATGATTGGAG CGATTAGTGG TCAAGAAGAA GTAAATCAAC GCCCTTTCAC	9720
TGTTGGGCAT TTTGACCTTA TCATAATTGA CGAATCTCAC CGTTCATTT ATCAGAAATA	9780
CAAGTCCATT TTTGATTATT TTGATGCAAG AATTGTAGGC TTAACAGCTA CTCCGCGTCA	9840
AGATTTAGAT AAAAACACCT ATGGATTCTT TAATTTGGAG AATGGGGTTC CAACATATGC	9900
ATATGATTTG GAAGAGGCTG TTAAAGACGG ATATTTAGTA GCCTATCATT CTATCGAAAC	9960
CAAAGTAAA CTACCTACCG ATGGTCTACA TTATGATGAT TTGTCCGAAG AAGAAAAGGA	10020

461

ACATTTTGAT AGCAAATTTG AAGACAATAG CTGTGAAAAA GATATTGATG GGAGTGTATT	10080
TAATTCCTTT ATTTTCAATA AAAGTACACT AGAAATTGTT TTAAATGAAC TCATGACAAG	10140
AGGAATTCAG ACAGCCTCGG GTGATGAAAT TGGTAAACT ATTATTTTGT CTAAAAATCA	10200
TGATCATGCG GAATATATCA GAGGTATTTT TAACAACCGC TATCCTGAAA AAGGGAGCGA	10260
CTATGCTCAG GTGATTGATT ATAGTATTAA GCATTATCAG ACCTTGATTG ATGATTTTAA	10320
AATTAAGGAG AAGTATCCTC AAATTGCGAT TTCTGTGCGAT ATGTTAGATA CAGGTATTGA	10380
TGTACCAGAG GTTGTTAATT TAGTCTTCTT CAAGAAAGTA CGCTCTAAAA CTAAGTTTGT	10440
GCAGATGATT GGTGAGGAA CCCGTCTATG TAAAGATTTA TTGGACCTG AGCAGGATAA	10500
GGAAAACTTC TTGGTATTTG ATTATGGGGA CAATTTTGAT TATTTTCCTG CAGATCCAAG	10560
AGATGGAGAG GGTGCTCACA TTGTTTCGCT GACTCAGCGT TTATTTAATA TCAAAGTGGA	10620
CTTGATTCTGA GAACTTCAGG GACTCCAATA CCAAGAAGAT CAGTTTGCGA GAGCATACCG	10680
TCAGCAGCTT GTCTCGGAAC TTCAAGGTCG TATAGAGAGC TTAAATGAGT TGGACTTCAG	10740
GGTTCGTATG GTTTTAGATA CAGTTTATAG CTATAGGAAA TTGGAAAGTT GGCAGAATCT	10800
AACTGCTGTT ACAAGTGAAA CCATTCAAAA AAATCTCTCT CCGCTTTTAT TTGATGAAGA	10860
TAAAGAAGAT GAGATGGCGA GGAGATTGA TTTGTGGTTG CTTCATATTC AGTTGGGGCA	10920
ACTGACAGCT AAATCTTCCA CTGTTCAAT TTCCCAAGTG ATGAAGACGG CTAGAGCTCT	10980
TTCTGCTATT GGCAATATCC CGCAGGTTTT TGAGCAGGCT GAAATTATCA GGAAAGTACA	11040
GGAGCCTGAA TTTTGGAAAG AAGTTAACTT GTCTGATTTG GAAAAAATTC GTCTTGCTAT	11100
TCGAGATTTA TTACAGTTTT TGGATAAAAC AGACCGTAAA CCCTACTATG TTAACTTTGA	11160
AGATCGTATA CTCTCCACTG TTCACGAGAC CACAGCATTT TTGCAGGTCA ACGATCTTCG	11220
GTCTTACAAAT GAAAAAGTTG AGCATTATTT GAAAACTCAT CTGGATGAGG AGTCCATTTT	11280
TAAGCTATAC CATAATAAAA AGTTGACATC TGATGATATG CTTGCACTTG AAAAATTGCT	11340
TTGGGAAAAA TTAGGTAGTA AAGCAGACTA CCAAAGTCAT TATGAAAATA AGGCAATTCC	11400
GAGATTGGTT CGTGAGATTA TTGGCTTAGA TAGAGAGTCT GCCAATCGTA TTTTCTCTAA	11460
ATTTTGTGCG GATGACAATC TTAATGCCAG GCAGATTTC TTTGTAAAAT TGATTGTAGA	11520
CTACATTGTA GAAATGGTT TTTTAGAGAC GAAAGTGTTA ACGCAAGAGC CGTTTAAATC	11580
TTATGGTTCT GTTCAACTAC TCTTCCAACA CCAACTACCA GTACTTCGTA ATATTGTTCA	11640
AATCATTGAA CTTATCAATA ATCGAGCTGG AGAAGCGGCT TAAATCTTAA AGTGATTGCC	11700
ATGCTGAGAC TCATTTAAAA TTAATAAGAG TAGAAATTTA TGCTATATAT GAGAAGTTT	11760

462

ATTAGGAAGA ATGTCATCGT TTTCCTAGAA TACAGTATCA GTTGTTAAGT GGTGATAAA	11820
TTTCAAAGTA GATACTTGTA CCACGATGTT TGTGATCGA GTTATTAACA AAAGAGCTAC	11880
TTTGATTTTA AAGAAATAGA AAACAAAAG CCGAGCAAGA ATTCAATTGC AGGAGAAAA	11940
GAAATAATAC TCAATGAAAA TCAAAGAGCA AACTAGGAAA CTAGCTGCAG GCTGCTCAA	12000
ACACTGTTTT GAGGTTGCAG ATGGAAGCTG ACGCGGATTG AAGAGATTTT CGAAGAGTAT	12060
AAATCTTCCT AGGATAAAGC AAAACGCATA GTATCAAGGG TTTTCAACAC TTGATACTAT	12120
GCGTTTTCTG ATGTTAAAGA CTTTCTACCA GGTTTTTTAA AAGCATAATT GTTAGTTGTA	12180
GTCATTTATT ATTCTTCAAA GAAAAATGGT GGGGCGAATT TTTTCAGTTC TTCAAAGCAC	12240
TTTTGAGCAG TATCTGCATC TTCACAGATG ATAAGACAGA CATCATTACC ACAAAGGGTA	12300
GCGATAGCGT CAGGGAAGCT CAAAGTATCA ATGATAGAAC CAAAGGATTG AGCCAGTCCA	12360
GGAAGGGTTT TTAGTAGGAC TTGGTGTGA ACTGGGCGCA TCCAGACAAG GCGTCTTCC	12420
ATGTAGAGTT CGAGACGTTT TTCCCATTTT GAGATGGAAC CATTGTTAAG AACATAATAA	12480
GCGCTATCTT CTTGCGGAC TTTTGATAGG TTCATATTTT TGATGTCGCG TGAGAGGGTT	12540
GCCTGGGTTA CTGAATGTC GTTCTCAGCA AGAAGGGCTT GCAACTCAGC CTCTGTATGA	12600
ATCTTGTTTT TTGTGATAAG AGCGCGTATA AGTTGGTGGC GGTGTTCTGA TTTATTCATA	12660
ATAATGTAAC TCCTTTTAGC AAGGTAAGGT AAGCATGGAC TGAGCGAGGT CGACAGTCAA	12720
GTGGTAGTCT GTATTGTCAC GGATGGTGAT TTCAAAGTCA GTAGTATAGA GGACTAAACG	12780
GAGAGTGTCT CCTTCTTTTA GCTTGTAAT AGTTGGCTGC AGTTCAAATT GAACGTCCAT	12840
CCATTCATCT GCAGTAATAT CCTCTACTAA CAGTAAATCA TTTCTATTTT GTAAATTAAG	12900
GTAACCTTTT GTCACGACTC GTTGTGCCTC TGGTCTAAAT GGCAATTCAC AGAGATTTTC	12960
CAACATGTGA TAGCGACCGT TGTCAATGGT TCTAGCACTT AAAATAGCTG GATAAGGTTG	13020
TAGGTATTTT TTTTGCCCAA ATTCTAGCAG TTGGGCAGAT AAGAGCCCTT TGTGTGACT	13080
GGATTTGATA CGAAGATTGA GCTGAGCGCG ACCGTTTAGG TGGAGATCTT TAGTCACAGG	13140
AAGGTAAATA GTAATCTGAT TGGCTTTCCC TTGATAGAGC TCTGTATTGA AGGTTGGTA	13200
TGTCTTACCA TAGCGCTCAA AATCCTTATC TGGGTACTGG TTTTGAATAG CTGCTCTTC	13260
TTGACCAAGT GAGAAGGTTT CACAGTTTTC TTGCCACCG AAGTTATCAA GTGATAACCA	13320
AGTCTGTGGA GCTGTATTGT CCTGCCAGAT AACAGTAGGA AGTTGAAAGT CTGTTTCCTG	13380
TCCTAGTAAT TTCTTGGTCA ATAAGGCATT TATGGACTCA CGGAAGTCAA TTGATTGCCA	13440
ATTGTTTATG TAAACATGGG CACCATTATG GAAAAAGAGA TGCTTGTGTA TATGAGTAGG	13500
AAGAGCATGG AACATCTGGT AACATGAAG TGGTTTGACA TTCCAATCCT GAGAACCATG	13560

463

AGTAAAGACA ACCTCTGCCT TTACTTTATG GGCATGAGC AGATAATTGC GGTGATGCCA	13620
AAACTGATTG TAGTCCCCAG TTTTTCGGTC TAGCTGAGCT TTCACITTTT CTAAGTCAGC	13680
TTGGTGAGCT TCATTGCCAC GGATATAGTC GCCAGCTAAG AGATTACGAG AATAGGTTAA	13740
CTCAGCAAGG GAGTCAAAGT CCTCACCTGG ATAACCACCT GGGCTAGTCA CCAGACCGTT	13800
TTACACGGTAG TAGTGTACC ATGATGAAAT TCCTGCCTCG GCAATGATAA CTTCTAAACC	13860
ATCGACTCCT GTAGTCGCAA GACCATTGGA CATGGTACCT AGATAGGAAA GTCCTGTTGT	13920
AGCAACTTTT CCGTTTGACC AATCAGCCTT GACTTGACGC TGGCGCGTGT GATCAGTAAA	13980
GGCACGGCAA CGACCGTTAA GCCAATCGAT GACATTTTTA TAAGCCTCGA TTTGCTGGTA	14040
GTCTCCATTA CTCATGAAAC CTGTCGAGTC TTTGGTACCA ACACCTGAGA CATAGAGATT	14100
GGCAAAGCCT CTCGGAAGGA AGTAGTCGTT TAGTGTATAG CTAGAGTTGA TGTAGTTAG	14160
CTTTTCCTCA GCCTCTGCTA TAAGCTCAGC TTTACCTTGG GGTGGACGA GATTTAGTTG	14220
AGGTTTCTCT AGCTCAATCT TGTGAGGAAG CTTAACCTCA AGCTCGCCCT CCATCTTGTA	14280
GAGAGCCTTG TCACTAGCCT TGTGATGGT TCCCTGATGA TAAGGGCTGG CTGTCATGAT	14340
GGCAGGGATT TTTCCATCAA AACGAGGGCG AATAATGCTA ACCTTTACTA GGTCTGATAG	14400
CCCTTTTTGG TCAGTATCGA CACGAGACTC AACGTAAACG ACTTCACGAA TGACATCCTG	14460
GTTAGAAAAA GTAGCCAAAC TCTTGCCGTT AAAGTAGTGG TAGTCATTAT CCTCCGGAAT	14520
AAGACCATCA CTAACAAGTT GGTGATAAG AGTATTTCTT TTTTGGTGC GAGTATTGAG	14580
TAAGTATAG AGATTTTCAA TCAAGTCACC ATATATAATG GGAAATCCAG TTTCTTTACG	14640
AAAAACGTCA CTATCTTCCA AGTCAACCAA ATAAGAAAAG CCTAAAAGTT GAAAAGCAAC	14700
AGTATAAAAA ATATCTGCTG TCAGTTCATC TTCGTATTGA AAAAATGTCA GCAGGTCTGT	14760
TTTTTTATCA GCTGCTAGGA TAGAAAGTGG TAGTTGGTG TCTTGATAAG TGAAAAAGAA	14820
ACGACGTAAA AAGGTTTCAA GTGAGTCTTT GTGATTGGCT GTATTTTGTA AATCAAAGCC	14880
ACATTTTTTT AGTTCAGATA AGACATTTTC TTTTGAAAA TTGATATAAC TATATTGATT	14940
AAAACGCATA GAACCTCCAT ATAGAATGAC AGTTAAGGTT ATTATATCAA AAAAAAGCA	15000
GAAAGGGAAT TGTAACTTC AAAAGGAAAT AATCCAATAA AAATGAATAA AGTACTAAAT	15060
TCAATATAGA GAACAGAGTA ACAATAAGAA TAAATAGATA GGGTATAAAA GTTCTAGGAG	15120
ATTTATATTA TATGCTTTCT ATTTTATAT ACAATATAGT ATAAATATAA AAATGATGAC	15180
AAAAATACAA ATGAATAGAA AATAAATTAG TAAGCTGATG AAATTTTCT CAAGAGAAGC	15240
CATTTATAGG TGAAAAAGGT ATAATATAGT GAGAAGGATA GAGGAGAAGT GTAAATTGAT	15300

464

CGCACAACTA GATACAAAAA CAGTCTATAG TTTTATGGAA AGCGTCATTT CGATCGAAAA	15360
GTATGTGAGA GCAGCTAAAG AATACGGCTA CACTCATTG GCTATGATGG ATATTGACAA	15420
TCTTTATGGC GCTTTCGACT TTCTAGAGAT TACAAAAAA TACGGCATTC ATCCTTTGCT	15480
AGGGCTTGAA ATGACAGTGT TTGTAGATGA TCAGGGAGTG AATTTGCGCT TTTTAGCTCT	15540
ATCTAGTGTG GGCTATCAGC AGTTGATGAA GCTTTCGACA GCCAAGATGC AGGGGGAGAA	15600
AACTTGGTCA GTCCTGTCCC AGTACCTGGA GGATATCGCG GTCATTGTGC CTTATTTTGA	15660
TAGAGTTGAG TCGTTAGAAC TAGGCTGTGA TTAATATATA GGGGTTTATC CAGAAACACT	15720
AGCAAGCGAA TTTTCATCATC CTATCTTACC TCTTTATCGG GTCAACGCTT TTGAAAGCAG	15780
GGATAGAGAA GTTCTTCAAG TTTTAACAGC GATTAAAGAA AATCTACCGC TCAGAGAAGT	15840
TCCCTTGCGT TCGAGACAAG ATGTCTTTAT ATCAGCAAGT TCTTTAGAGA AACTATTTCCA	15900
AGAGCGTTT CCGCAAGCTT TGGACAATTT AGAAAAGCTT ATTTTCAGGCA TTTCTTACGA	15960
CTTGGAATACT AGTCTGAAAC TGCCTCGTTT TAATCCAGCT AGACCAGCAG TAGAGGAGTT	16020
GAGAGAGCGT GCTGAACTGG GGCTTGTTCA GAAGGGGTTG ACTAGTAAAG AATATCAAGA	16080
TAGACTAGAC CAAGAATTGT CTGTTATTTCA TGATATGGGC TTTGATGATT ATTTCTTGGT	16140
TGTTTGGGAT TTGTTGCGTT TTGGACAATC GAATGGCTAT TATATGGGAA TGGGAAGGGG	16200
TTCTGCAGTA GGCAGTTTGG TTTCTTATGC CTTAGACATC ACGGGGATTG ACCCAGTAGA	16260
GAAAAATCTG ATTTTGAAC GCTTCTTAA TCGTGAACGC TATACCATGC CTGATATTGA	16320
TATTGATATC CCAGATATTT ATCGTCCAGA TTTTATCAGA TATGTTGGTA ATAAATATGG	16380
TAGTAAACAT GCGGCACAAA TCGTTACTTT TTCAACCTTT GGAGCCAAGC AAGCTCTTCG	16440
AGATGTCTTG AAACGCTTTG GTGTGCCAGA GTATGAATTA TCTGCAATTA CTAAGAAAAT	16500
CAGTTTTCGT GACAACTTTA AGTCGGCCTA TGAGGGAAAT CTCCAGTTTC GTCAGCAAAT	16560
CAATAGTAAG TTAGAATACC AAAAAGCTTT TGAGATTGCT TGCAAGATAG AGGGCTATCC	16620
AAGGCAAACC TCTGTCCATG CGGCTGGTGT TGTAATTAGT GACCAAGATT TAACCAACTA	16680
CATTCCTCTA AAGTATGGTG ATGAAATTCC ACTGACTCAG TATGATGCTC ATGGAGTTGA	16740
GGCTAGCGGA CTTTGAAGA TGGACTTTCT GGGACTACGA AATTGACCT TTGTCCAGAA	16800
GATGCAAGAG TTGCTTGCTG AAACAGAAGG TATTCATCTG AAAATTGAAG AAATCGATTT	16860
AGAAGACAAA GAAACGTTAG CTTTATTTGC CTCTGGTAAT ACAAAGGTA TCTTTCAATT	16920
TGAGCAACCA GGTGCCATTG GTCTGCTTAA GCGTGTGCAA CCAGTCTGTT TTGAAGATGT	16980
CGTCGCGACT ACTTCTCTAA ATCGACCGG TGCTAGTGAC TATATCAATA ATTTTGTGGC	17040
AAGAAAGCAT GGGCAGGAAG AAGTGACTGT TCTGGATCCA GTACTGGAGG ATATTTTGGC	17100

465

TCCAACCTAC	GGCATAATGC	TCTATCAGGA	GCAGGTATATG	CAGGTTGCCC	AGCGACTTGC	17160
CGGATTTAGT	CTTGGGAAAG	CCGATATTTT	GCGTCGGGCT	ATGGGGAAAA	AGGATGCCTC	17220
TGCCATGCAT	GAGATGAGGG	CTTCCTTTAT	TCAAGGTTC	TTAGAAGCTG	GTCATACTGT	17280
GGAAAAAGCA	GAGCAGGTCT	TTGATGTTAT	GGAGAAGTTC	GCAGGTTATG	GTTTTAACAG	17340
GTCACACGCC	TATGCCTACT	CAGCCTTGGC	CTTCCAGTTG	GCTTATTTCA	AAACGCATTA	17400
TCCAGCCATT	TTTTATCAGG	TCATGTTAAA	TTCTTCCAAC	AGTGATTACT	TAATAGATGC	17460
ACTTGAAGCA	GGTTTTGAAG	TAGCCTCTCT	ATCCATCAAC	ACCATTCCCT	ATCACGATAA	17520
AATTGCCAAC	AAGGCCATCT	ATCTAGGTTT	GAAATCCATT	AAAGGAGTCA	GTAATGATTT	17580
AGCTCTCTGG	ATTATTGAAA	ATAGACCTTA	TTCTAACATT	GAAGATTTTA	TAGCTAAATT	17640
ACCTGAGAA	TATCTGAAAC	TTCTCTGCT	AGAACCTTG	GTAAGAGTTG	GTCTTTTCGA	17700
TTCATTTGAA	AAAAATCGTC	AAAAAGTATT	TAATAACTTA	GCTAATCTAT	TTGAATTTGT	17760
GAAAGAGTTG	GGAAGTTTGT	TTGGAGATGC	TATTTATAGT	TGGCAGGAAT	CGGAAGATTG	17820
GACGGAACAA	GAAAAATTTT	ATATGGAACA	AGAGCTTTTA	GGGATAGGTG	TCAGCAAACA	17880
TCCACTACAA	GCTATTGCAA	GTAAGGCTAT	TTACCCGATT	ACCCCAATCG	GAAATTTGTC	17940
AGAAAAATAGC	TATGCTATTA	TCTTGTTGA	AGTTCAGAAA	ATAAGAGTGA	TTCGTACCAA	18000
AAAGGGTGAA	AATATGGCCT	TCTTACAGGC	AGATGATAGT	AAGAAAAAAT	TGGATGTCAC	18060
TCTCTTTTCA	GACTTATATC	GTCAGGTGG	ACAGGAAATA	AAAGAGGGAG	CCTTCTACTA	18120
TGTAAGAGGA	AAAATACAAT	CACGTGATGG	CCGTCTGCAA	ATGATTGAC	AAGAAATAAG	18180
AGAAGCAGTT	GCTGAACGCT	TTTGGATACA	GGTAAAAAAT	CATGAATCCG	ATCAAGAAAT	18240
TTACGCATT	TTAGAACAAT	TTAAAGGCC	AATCCCAGTC	ATCATCCGGT	ATGAAGAGGA	18300
ACAGAAAACC	ATCGTTTCTC	CCCATCATTT	TGTAGCTAAA	TCCAATGAAT	TAGAGGAGAA	18360
ATTGAATGAA	ATCGTTATGA	AAACGATTTA	TCGCTAAAAA	TACGGAAAAAT	AGAAGAATTT	18420
TCAACGTAAA	TGTGGTATAA	TCAGTAAGAA	TGTTAAAAGA	AAAAGGAGCA	TAACCAATAT	18480
GAAACGTATT	GCTGTTTGA	CTAGTGGTGG	AGACCCCCCT	GGTATGAACG	CTGCCATCCG	18540
TGCAGTTGTT	CGTCAAGCAA	TTTCAGAAGG	AATGGAAGTT	TTTGGTATCT	ATGACGGATA	18600
TGCTGGTATG	GTGCGCGGTG	AAATTCATCC	CCTAGATGCA	GCTTCAGTAG	GGGACATCAT	18660
TTCTCGTGGT	GGTACTTTCC	TTCACTCAGC	TCGTTACCCA	GAGTTCGCTC	AACTTGAAGG	18720
GCAACTTAAA	GGGATTGAGC	AATTGAAAAA	ACACGGAATT	GAAGGTGTAG	TTGTTATCCG	18780
TGGTGACGGA	TCTTACCACG	GCGCTATGCG	TTTGACTGAA	CATGGCTTCC	CAGCTATTGG	18840

466

TCTTCCAGGT ACAATCGATA ACGATATCGT TGGTACTGAC TTTACAATCG GTTTTGACAC	18900
AGCGGTTACT ACTGCCATGG ACGCTATCGA TAAGATTTCGT GATACATCAT CAAGTCACCG	18960
TCGTACTTTT GTAATCGAAG TTATGGGACG TAACGCTGGT GATATCGCTC TTTGGGCTGG	19020
TATTGCAACT GGTGCTGATG AAATCATCAT CCCTGAAGCA GGCTTCAAGA TGGAAGATAT	19080
CGTAGCAAGC ATCAAAGCTG GTTATGAATG TGGTAAAAA CACAATATTA TCGTCTTAGC	19140
TGAAGGTGTG ATGTCAGCGG CTGAATTG TCAAAAACTT AAAGAAGCTG GAGATACAAG	19200
CGACCTTCGT GTAACAGAAC TTGGACATAT TCAACGTGGT GGTTCCTCAA CTGCGCGTGA	19260
CCGTGTTTTG GCGTCACGTA TGGGTGCACA TGCTGTTAAA CTTCTTAAAG AAGGTATCGG	19320
TGGTGTGCG GTTGTATTC GTAACGAAAA AATGGTTGAA AATCCAATTC TTGGTACTGC	19380
AGAAGAAGGG GCATTGTTTA GCCTTACTGC AGAAGCTAAG ATTGTGGTTA ACAACCCAGC	19440
TACAAA	19446

(2) INFORMATION FOR SEQ ID NO: 52:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 16593 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: double
 - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 52:

TCGTAAATAT GCTCTGTTTT TGGATTTTGT TTCTTAATCT GTTTGGCAAG TGCCTTCATC	60
ATAGAAATAG GACCACACAT ATAGACGGTT GCATGTTCCG GCACTTCTTT TTGTTCAAAA	120
TTAAGATAGC CGTCTTTCGT ACTGTCGATT AGATGGAGTT CAAAATTAGC ATTTTCTCTGA	180
GCATAGTTAC GGAGTAAATC TAGGTAGACT GCATTTTCAT CTCCACGGAA GCTATAGTAG	240
AAGTGAACCT GTTTATCTAA AATAGGATGT TCACGGATGT AAGAGATGAA GGGGGTGATC	300
CCAATACCTC CAGCAATCCA AACCTGATTT TCTCGTCCTT CTTCTATGAT CATGTGTCGG	360
TAAGCTCTGT CTAGGGTTAC TTTGCTGCCG GCTTGAAGAT TATCATAGAT ATTCTTGGTA	420
TGGTCCCTG AAGTTTAAAC AGTAAAGTAA AGACTTTGAC CATGACCTCC TGAGATAGAA	480
AAGGGATGCG GAGCACTTTC AAAGCCTTCT TGGAAAATCT TTAGAAAGGC AAATTGTCCT	540
GATTGATAGT TGAAAGGTCT GCTAAGATGG ATTTGAATTT CTCTAGTATC GTGATTTAAG	600
CGTTTGAGAT GGGTAATTTT CCCTAGATAG GGAAGGAAA TCTTTTGATA TAGAAAAATG	660
ATATAAAAAC CAGCTAGTAA GCCTAAAAGG GCATAGCTAC CAACAAGAAA ACTTAGAAGA	720
TTAAATGTAA GGAGACGATT GCCCATTATC ATGTAGATGT GAAAGAGTCC TAAATATAG	780

467

GCTAGGTAAA CCAGGCGGTG AATCCATCGC CAAGCTTCGT ATTGGATGTA TTTGCCCTAAA	840
TAGGCGACAA GGATGATGCT GGCAAAGATA TAGATGGCAA GATTGCCAAA CTGAGCAGCT	900
AAGCGAGAGC CCCACAAACC GCCCATACTA AAGTTATGAA AGATTAGTAG GATGATTGAG	960
AGAAAGGCTG TGAATTTGTG GACGGTGTAG ACCTTCTCCA AACTGTGAAA CCAGCTTTCT	1020
ACTAGTGGGA GACGAGTGGC TAGGATAAAA GTCAGAGATA GGCTTGTTAA AGCTAGTCCT	1080
GGAATCATGA ATTGGGGAGA AGTGTTCATC CAAGTCAAAA GAGTCAAGAT AAAACTAGCT	1140
ATGATAAAGA GTAGTCCTTT GACTGATTTC ATAGAAAATT CCATTTCATT TAGATTTCTGA	1200
TTTGTGTAA ATAAATTTGT TACATTTTAT CATAGAAAAT GTATGGTGTG AAATTGAGGT	1260
CTATAAATAT CTACTCTCAT CAAAAAATC TCCAATTGAA CTGGAGAGTG GCTGTTTATA	1320
CTCAATGAAA ATCAAAGAGC AAAGTAGGAA GCTAGCCGCA AGTTGCTCAA AACACTGTTT	1380
TGAGGTTGCA GATAGAGCTG ACGTGGTTG AAGAGATTTT CGAAGACTGT TATCTGCAG	1440
CTTGTGCCA ACGTTTGGCT AGCATATGAG ACAGGCTAGA AATTGCTAGG TTAAAGCTGA	1500
AGTAGATGAG GGCAATCAGG ATGTAAAGAC TGAAGACCTG CTCTGGTTCG AAATAACGGC	1560
CCATGAGAAT TTGGCTGGCT CCAAAGAGTT CTGTAGGGC GATAACAGAG TAGAGGAGAC	1620
TGGTATCCTT AATCACGTA ACAAAGTAG AAATGATGGC TGGTAGCATT TTGCGGATGG	1680
CTTGTGGGAG AATGATGTAG TAGAGGATTT GGGCTGAGGT GAAGCCTTGT GACATTCCTG	1740
CTTCGTACTG TCCCTTGTCT ACGGCATGTA GACCGCCTCG AATAATCTCA GCCAAGGCTG	1800
CTGATGTAAG GAGAGTAAAG GCTGTAATAC CTGCTGGTGT GGATTTCATT TTGAACACCA	1860
AAAAGATAGT AAAAATCCAG AGAAGGTTGG GAACGTTGCG CACAACTCG ATATAAATAC	1920
TGGAAATAAT GCGTAAGACA GGATTTTTCG CATTTCTCGT GACAGCTAGC ACCGTACCGA	1980
TGATAGTAGA GAGGATGATG GCAATCAGAG AAATATAGAG GGTCAAGCCA AATCCTTTAA	2040
AGATAAAGAC TAGCTTATCT GGGGTAAAAA CTTCTAAAAT AGATTCCATA GTAACCTCCT	2100
AAAGTGAATA GGCTTTTGTG TTGGCTTGCT CCATCTTGCG ACCAACTGG GCAACAGGGA	2160
AGCATAGAGC AAAGTAGAGA AGAGCAGCAC CTAAAAAGGC TGGTATATAG TTCCGTTGA	2220
GAGCCGACCA AGACTTAGTC ACAAACATCA AGTCTACTCC AGAGATGATA GCTACAGTAG	2280
AGGTGTTCTT GATGAGGTTA ACAATTTGGT TGGTCAATGG AGGGAGAATG ATGCGGAAGG	2340
CCTGAGGCAA GATAATCAAG CGCATGGCAC TGATATAGGT AAAACCTTGC GACAAGGCGG	2400
CCTCCATCTG ACCACTAGGA ATAGACTGAA TCCCTGAACG AATAACCTCA GCGATATAAG	2460
CGCCGTGATA GAGTCCCACG CAGAGAACGG CTGTCCAATA AATTGGAATC ATGATGATAT	2520

468

GGTCACTGAT AAGAGGTAGG CCATAAAAA CAATAACAAA CTGCACCAAG AGGGGAGTAT	2580
TTTGCTAAAA TTCAACAAAG ATGCGAGCTA AAATGCGTAA AATTGGACGT TTA CTGGTTG	2640
ACATGGCACC AAAGAAGATG CCCAAAACCA TAGCGAGGAT AAAGGAACCA ACCGCTAGGG	2700
CAAGGGTGAA GAGGAAACCA TTGAAAAATT GTCCAAAATC CTGAAAATAG GCTGTCCAAG	2760
ATGATAAATC TGTCATGGGG TGTCCTCCTT AATCTGCAGT ATGGCTAGAT GGTTTGAGCT	2820
TGTAACGGTC ATAAAGTTTC TGCAAACTAC CATCCTTGCT CCATTTAGTA ACCAAGTTAT	2880
CAAGATAGTC GTTGAGCTCT GTATTTGATT TCTGGTAAC AATACCGTAG TCAGATGGCT	2940
TGAAACTATC ATCTAGTAGT GCTGTCCGTT TACTAGTGTA GCCAGATAGA ATAGAGCGGT	3000
CAACGGAAAA GGTATCGATA CGATGAGCGT GCAGGGAAGT AATCAATTCT GGGTAGGAAC	3060
CAAGTTCGAC GAATTTAAAC TTCAGACCTT TCTTTTACC CAGTTCAGTA ATCAGGCGTT	3120
GGGTGATAGA ACCTTGGGCG ACTCCGATGG TTTTGCCGTT TAGGTCCTCA ATCTTTTGA	3180
TTTTGGCAGA TTTATTGACC AAAAAATCCAG AAGCGTCTGT GTAGTAGGGA CTGGTAAAGT	3240
TGTAGAGTTT TTTGCGTTCG TCCGTGATGG TAAAGGTCGC GATATCCATA TCGACCTGTT	3300
CATTGTCTAG AAGGGGGCCG CCGGTTGTG CTGTAACCG CACATAGCGA ATCTTGACCT	3360
TGAGTTCATC AGCTACCATC TTGGCCAAGT CGGTTTCGAT ACCAGAATAA GTACCGGTCT	3420
TGGGATCTTT GTAACCAAAA TTGGGAACGT CTTGTTTGAC ACCGACAACC AGTTCGCCTC	3480
TTTTTTGAAT GTCTGCGATA CTTGTATCAG CCTGGACTGG TTTGGCAGCA GCAAGGCCGA	3540
AAAGGCTAAT CAATAATGCT GATAAAAAGA ATTTTTTTC ATAGGCGCCT CCTTATTGA	3600
CTTTGTCACT TTCGTGGTTG ATAATTTTGC TGAGGAATTG TTGGGCACGA GGTTCGCTTG	3660
GATTGTCAAA AAAGTTATCG ACATCTGTG TATCTACTAA AACTTCTCCG TCGGCCATAA	3720
AGATAATGCG GTCCGCAACC TCTCGAGCAA AGCCCATTTT GTGGGTAACG ATGATCATGT	3780
TCATCCCATC ATGCCCCAGT TTCTGCATAA CTGCTAGAAC ATCTCCGATA GTCTCAGGAT	3840
CAAGAGCAGA TGTGGTTCA TCAAAGAGGA GGAGTCCCG ATGCATAGCA AGACCACGAG	3900
CGATGGCGAT CCGCTGTTTT TGTCCACCAG ATAGCATGGC GGGATAGGAA TCTTCTTGT	3960
CCCACATATT TACAAATTC AGATATTTTT GGGCGGTTTT TTCAGCTTCT TTTTATCAA	4020
TTCCTAGAAC TTCAATGGGT GCAAGCGTTA CGTTTTCTAA CACAGCTTTG TGTGGATAAA	4080
GCTTAAATG TTGAAAAACC ATGCCGACTT CCTTGCGAAG AGGTACCAAA TCTTCTGGC	4140
TGGCACCAGC AACTTGGTGC CCATTGACTA GGAGACTTCC TTGTGCAACA GTCTCTAAAC	4200
CATTGATCGT ACGGATAAGA GTGGACTTCC CAGAGCCAGA AGGTCCAAGC AGGACAACAA	4260
CTTGTCCTTT TTCAAAACGG AGATTGATGT TGCGGAATGC GTGGTAGTCT CCGTAATATT	4320

TTTCGACGTT TTAAATCT ACTAAAGCCA TGAGAGATCT CTATTGTGTT ATATTTTATA	4380
ACACGGTTCT ACAATAAAG AATGTTCTTG TCAAATCATA TCTGAAAAA TTCACTATAG	4440
TGAAATAAGA ACAGGAAAAA TCGATCGGGA CAGTCAAATC GATTTCTAAC AATATTTTAG	4500
AAGTAGAGGT GTACTATTCT AGTTTCAATA TACTATAAAA TGTATATAA AAGCAATCTG	4560
GATAGAGAAA ACGTCTAAAT CATGTTATAA TGAAGCAATA GAATTCCTAG AAAGAGTGGA	4620
TGCTCTTTTG ATAACACCTA CTTATGAATG GCAGTTTGCC CTGCAGGTAG AAGATGCGGA	4680
TTTTACAAAG ATAGCCAAGA AGGCTGGACT GGGTCCTGAG GTGGCTCGGT TATTGTTTGA	4740
GAGAGGGATT CAGAACCAAG AAAGCTGAA GAAGTTTGA GAACCTTCCT TGGAGGACTT	4800
ACATGATGCT TATCTGCTCC ATGATATGGA CAAGGCAGTG GAGCGGATTC GTCAGGCTAT	4860
TGAAGAAGGG GAAAATATTC TTGTTTATGG AGACTATGAT GCGGATGGCA TGACTTCGGC	4920
TTCTATTGTG AAGGAAAGTT TGGAACAACT TGGTGCTGAG TGCCGAGTTT ACCTGCCAAA	4980
TCGTTTTACC GATGGCTATG GCCCTAATGC TAGTGTTTAT AAATACTTTA TCGAGCAAGA	5040
AGGGATTTCC TTGATTGTGA CGGTGGACAA TGGGGTTGCT GGTGATGAGG CTATTGCATT	5100
GGCTCAGTCT ATGGGAGTAG ATGTCATTGT GACAGACCAT CATTCCATGC CTGAAACCCCT	5160
GCCAGATGCT TATGCTATTG TCCATCCTGA ACATCCAGAT GCGGATTATC CTTTTAAATA	5220
TTTGGCTGGT TGTGCACTTG CTTTCAAGTT GGCTTGTGCC CTGTTAGAAG AAGTGCAAGT	5280
GGAATTGCTT GATTTGTCG CTATTGGAAC TATTGCAGAT ATGGTGAGTC TGACGGATGA	5340
AAATCGTATC TTAGTTCAAT ATGGTCTGGA AATGTTGGGT CATAACCAGC GCATTGGTCT	5400
GCAAGAAATG CTGGACATGG CTGGGATGTC TGCCAACGAA GTAACAGAAG AACCGGTTGG	5460
TTTCCAGATT GCTCCTCGTT TGAATGCCTT GGGTCGCTTG GATGATCCCA ATCCTGCCAT	5520
TGATTTGTTG ACTGGATTTG ATGATGAGGA AGCGCATGAG ATTGCCCTTA TGATTCACCA	5580
GAAAAACGAA GAGCGCAAGG AAATCGTTCA GTCTATCTAT GAAGAAGCCA AGACCATCGT	5640
GGATCCTGAG AAGAAGGTTT AGGTCTTGGC CAAGGAAGGC TGGAATCCTG GGGTCTTAGG	5700
AATCGTGGCT GGTCTTTTAT TGAAGAATT GGGACAGACA GTCATTGTTT TTAATATAGA	5760
AGACGGTCGT GCCAAGGGCA GTGCTCGTAG TGTGGAAGCG GTCGATATTT TTGAAGCTCT	5820
GGATCCCCAT CGAGACCTCT TCATCGCCTT TGGAGGTCAT GCAGGTGCAG CGGGTATGAC	5880
GCTGGAAGTT GAGCAACTCT CAGATTTATC TCAGGTTTGG GAAGATTATG TTCGTGAAAA	5940
AGGTGCAGAT GCTGGTGGCA AGAATAAGTT AAACCTAGAT GAAGAGTTGG ATTTGGAGGC	6000
ACTTAGCTTG GAAACGGTCA AAAGTTTGA ACGTTTAGCT CCTTTTGCAA TGGATAATCA	6060

470

GAAACCTATT	TTTTATATCA	AGAATTTTCA	GGTCGAAAGT	GCTCGTACTA	TGGGGGCAGG	6120
TAATGCCCCAT	CTAAAGCTGA	AAATTTCCAA	GGGTGAGGCG	AGTTTGAAG	TGGTAGCCTT	6180
TGGTCAAGGC	AGATGGGCGA	CAGAGTTTTC	TCAAACCAAG	AATCTAGAGT	TAGCGGTAA	6240
ATTGTCTGTC	AACCAATGGA	ATGGCCAAAC	TGCCCTCCAG	TTGATGATGG	TGGATGCGCG	6300
AGTGGAAGGT	GTTCAACTTT	TTAACATTTC	TGGAAAAAAT	GCAGTCTTGC	CAGAAGGTGT	6360
TCCAGTCTTG	GATTTTCCTG	GAGAACTGCC	AAATCTTGCG	GCTAGTGAAG	CTCTTGCTCGT	6420
AAAAACATT	CCAGAGGATA	TTACTCAGCT	GAAGACCATT	TTTCAGGAAC	AGCATTTCTC	6480
TGCTGTCTAT	TTCAAAAATG	ATATTGACAA	GGCTTATTAT	CTGACAGGTT	ATGGGACTAG	6540
AGATCAGTTT	GCCAAATTGT	ACAAGACTAT	TTACCAGTTC	CCAGAGTTTG	ATATTCGCTA	6600
CAAGCTGAAA	GATTTGGCTG	CATATCTTAA	TATTCACAA	ATCTTGCTGG	TCAAGATGAT	6660
TCAAGTATTT	GAAGAAGTAG	GCTTTGTGAC	GATAAAAGAT	GGTGTGATGA	CAGTCAATAA	6720
AGAGCGCCCA	AAGCGGGAGA	TAGGAGAAAG	TCAAATTTAC	CAAAATCTCA	AACAAACCGT	6780
TAAAGACCAA	GAAATGATGG	CGCTGGGTAC	GGTGCAAGAA	ATTTATGATT	TTTGTATGGA	6840
AAAAGAGTAG	AAGTTAGGAA	AGAGTTGGGA	AATCAACTCT	TTTTTGAAAA	CAGACCTTCA	6900
TTTTGAAAAAT	CATCAAAAAA	ATGGTATAAT	GGTAGGAAAA	GATTCGGCTG	AAAGTATCAG	6960
AACTTTTAGA	ATAAGAGGGT	AGAATGCCCC	TATAATCAAG	ATAAACTAAG	ATTTTGAGAG	7020
AAAAATGAGT	AATATCAGTT	TAACAACACT	TGGTGGTGTG	CGTGAGAATG	GAAAAAATAT	7080
GTACATTGCT	GAAATTGGAG	AGTCCATTTT	TGTTTTGAAT	GTAGGGTTAA	AATATCCTGA	7140
AAATGAACAA	TTAGGGGTCG	ATGTGGTGAT	TCCAAACATG	GATTACCTTT	TTGAAAATAG	7200
CGACCGTATT	GCTGGGGTTT	TCCTGACCCA	CGGGCATGCG	GATGCCATTG	GTGCTCTACC	7260
GTATCTCTTG	GCAGAGGCTA	AAGTTCCTGT	ATTTGGGTCT	GAGTTGACCA	TTGAGTTGGC	7320
AAAGCTCTTT	GTCAAAGGAA	ATGATGCCGT	TAAGAAATTT	AATGATTTCC	ATGTCATTGA	7380
TGAGAATACG	GAGATTGATT	TTGGTGGGAC	AGTGGTTTCC	TTCTTCCCTA	CGACTTACTC	7440
CGTTCCAGAG	AGTCTGGGAA	TTGTCTTGAA	GACATCGGAA	GGAAGCATCG	TTTATACAGG	7500
TGACTTCAAA	TTTGACCAAA	CGGCTAGTGA	ATCTTATGCA	ACTGATTTTG	CTCGTTTGGC	7560
AGAGATTGGT	CGTGACGGCG	TCCTGGCTCT	CCTCAGTGAT	TCGGCCAATG	CAGACAGCAA	7620
TATTCAGGTG	GCTAGTGAAA	GTGAAGTTAG	GGATGAAATT	ACCCAAACTA	TTGCTGACTG	7680
GGAAGGTCGT	ATCATCGTTG	CAGCTGTTTC	CAGTAATCTT	TCTCGTATTC	AGCAGATTTT	7740
TGACGCTGCG	GATAAAACAG	GTCGACGTAT	CGTCTTGACA	GGATTGATA	TTGAAAATAT	7800
CGTCCGCACA	GCGATTGCTC	TTAAGAAGTT	GTCTTTAGCC	AACGAAATTC	TTTTGATTAA	7860

471

GCCTAAAGAT ATGTCTCGCT TTGAAGACCA TGAGTTGATT ATTCTTGAGA CAGGTCGTAT	7920
GGGTGAGCCT ATCAATGGAC TTCGTAAGAT GTCGATTGGT CGCCATCGTT ATGTAGAAAT	7980
CAAGGATGGG GACCTAGTCT ATATTGCTAC GGCTCCGTCT ATTGCTAAAG AAGCCTTTGT	8040
TGCGCGTGTG GAAAAATGA TTTATCAGGC AGGTGGGGTT GTCAAAATTGA TTACCCAAAG	8100
TTTACATGTA TCAGGGCAGC GAAATGTGCG TGATTTGCAG CTGATGATCA ATCTTTTGCA	8160
ACCTAAGTAC CTCTCCCTG TCCAAGGGGA GTATCGTGAG TTGGATGCTC ACGCTAAGGC	8220
TGCCATGGCA GTTGGGATGT TGCCAGAACG CATCTTCATT CCTAAAAAGG GGACGACCAT	8280
GGCTTACGAG AATGGAGACT TTGTTCCAGC TGGATCGGTT TCAGCAGGAG ATATCTTGAT	8340
TGATGGGAAT GCCATTGGTG ATGTTGAAA TGTGTCTCTT CGTGACCGTA AGGTCTTGTC	8400
AGAGGATGGA ATTTTCATCG TGGCTATTAC AGTCAACCGT CGTGAGAAGA AAATTGTGGC	8460
TAGGGCTCGT GTTCACACGC GTGGATTTGT TTATCTCAAG AAGAGTCGCG ATATCTCCG	8520
TGAAAGTTCA GAATTGATTA ACCAAACGGT AGAAGAGTAT CTCAAGGAG ATGACTTTGA	8580
CTGGGCAGAT CTCAAAGGTA AGGTTCTGTA CAATCTGACC AAGTACCTCT TTGATCAAAC	8640
CAAGCGTCGC CCAGCCATTT TACCAGTAGT CATGGAAGCA AAATAATCGT TGAAATAAAC	8700
AGAGAGAAAG TCGAGTTTCG GCTTTTCTT ATAGAAAAAT AGAAGGAGAA AATCATGGCA	8760
GTGATGAAAA TCGAGTATTA CTCACAAGTA TTGGATATGG AGTGGGGGGT GAATGTCCTC	8820
TACCTGATG CCAATCGAGT GGAAGAACCA GAGTGTGAAG ATATTCCCGT CTTGTACCTT	8880
TTGCACGGGA TGTCTGGAAA TCATAATAGT TGGCTTAAGC GGACCAATGT AGAACGCTTG	8940
CTTCGAGGAA CTAATCTCAT CGTTGTTATG CCAATACCA GCAATGGTTG GTACACCGAT	9000
ACCCAGTATG GTTTTGACTA CTACACGGCT CTAGCAGAGG AATTGCCACA GGTTCTGAAA	9060
CGCTTCTTCC CTAATATGAC GAGCAAGCGT GAAAAGACCT TTATCGCTGG TCTTTCTATG	9120
GGAGGCTACG GCTGCTTCAA ACTGGCTCTT ACGACAAATC GTTTTCTCA TGCAGCTAGT	9180
TTTTCAGGTG CCCTCAGCTT TCAAACTTT TCTCCTGAAA GTCAAAATCT GGGAAGTCCA	9240
GCCTACTGGA GAGGTGTTTT TGGAGAGATT AGAGACTGGA CAACTAGTCC CTATTCTCTT	9300
GAAAGCTGCG CTAAAAATC GGATAAAAAG ACCAACTTT GGGCGTGGT TGGCGAACAG	9360
GATTTCTTGT ACGAAGCCAA TAATCTCGCA GTGAAAAATC TCAAAAACT AGGTTTGTAT	9420
GTGACCTATA GCCATAGCGC TGGAACTCAC GAGTGGTACT ACTGGGAAAA ACAATTGGAA	9480
GTTTTTTTAA CAACCTACC AATTGATTTT AAATTAGAAG AGAGACTGAC TTAGTTTGAA	9540
CTTCAGCATA GGGGGAGTAG AACTAAAATA AAATATGTTT TCACTAGACT TTTCAAACGm	9600

472

AAGTAGTAGA ATAGTAATAA AATACTGGAG GAAAGAGAGT AGGAAATGTA CCGTTATCAA	9660
ATTGGCATTC CCACATTAGA ATATGATCAG TTTGTCAAAG AACATGAATT AGCCAATGTA	9720
TTACAAAGTA GTGCTTGGGA GGAAGTTAAG TCTAATTGGC AACATGAGAA GTTGTGGTGT	9780
TACAGGGAAG AAAAATTACT GGCGACAGCT AGTATTTTGA TTAGAACTCT TCCGCTAGGC	9840
TATAAAATCT TTTACATCCC AAGAGGACCT ATATTGGATT ATGGGGATAA AGAACTCTTG	9900
AATTTTGCCA TTCAGTCTAT TAAGTCCTAT GCTCGCAGTA AGAGAGCGGT TTTTGTGACT	9960
TTTGACCCAA GTATTGCGCT ATCTCAAAGT TTAATCAATC AGGAAAAGAC AGAATTTCCCT	10020
GAAAATCTGG CTATTATTGA TAGTTTGCAA CAAATGGGAG TAAGGTGGTC AGGAAAAACG	10080
GAGGAAATGG GAGACACCAT TCAACCTCGT ATTCAGGCCA AAATATACAA GGAAAATTTT	10140
GAAGAAGATA AACTTTCCAA GTCAACAAAA CAGGCTATTC GAACAGCACG AAACAAAGGG	10200
CTTGAGATTC AATATGGTGG ACTGGAAC TAAGATTTCAT TTTTCGGAGT GATGAAAAAA	10260
ACTGAGAAGC GAAAAGAGAT TCATTTGAGG AATGAAGCCT ATTATAAAAA ATTGTTAGAT	10320
AATTTTAAGG ACAAGGCCTA TATCACCTTG GCCACCTTGG ATGTTTCTAA ACGTTCGCAA	10380
GAGTTAGAAG AACAGTTAGC GAAAAATAGA GCCTTGGAAG AGACCTTTAC TGAGTCGACT	10440
CGAACTTCAA AAGTAGAAGC GCAGAAGAAG GAAAAAGAAC GTTTGTTAGA GGAATTGACC	10500
TTCTTGCAGG AATATATAGA TGTAGGTCAA GCGAGAGTTC CTTTAGCGGC TACTTTGAGT	10560
TTGGAATTTG GTACTACCTC TGTCAATATA TATGCTGGTA TGGATCATGA TTTTAAACCT	10620
TACAATGCAC CAATTTTAAC TTGGTATGAA ACGGCTCGCT ATGCCCTTGA ACGAGGTATG	10680
ATCTGGCAAA ATTTAGGTGG TGTGAAAAC TCTCTCAATG GTGGACTTTA TCATTTTAAG	10740
GAAAAATTTA ATCCAACGAT TGAAGAATAC TTGGGTGAAT TTACAATGCC CACTCATCCT	10800
CTCTATCCTC TGTTAAGACT TGCTCTTGAT TTCCGTAAAA CATTAAGAAA AAAACATAGA	10860
AAGTAAGTAT ATGGCACTAA CAACACTCAC GAAAGAAGAG TTTTCAGACT ATTCTGATCA	10920
GGTTTCTTCT CGTTCCTTTA TGCAATCTGT CCAGATGGGG GATTTGCTAG AAAAAGAGG	10980
GGCTCGAATT GTTTATCTTG CTTTGAAACA AGAAGGAGAA ATTCAAGTTG CAGCTCTGGT	11040
TTATAGCCTG CCCATGCTGG GTGCTCTGCA TATGGAATC AATTCGGGGC CGATTTATAC	11100
CCAACAAGAT GCTCTTCCAG TTTTTTATGC AGAGTTAAAA GAATATGCCA AGCAAAATGG	11160
TGTATTAGAG TTGCTTGTA AACCCTATGA AACTTATCAA ACTTTTGATA GCCAAGGTAA	11220
TCCAATAGAT GCTGAGAAAA AAAGTATTAT TCAAGATTG ACTGATTTAG GTTATCAATT	11280
TGATGGCTTA ACAACAGGTT ACCCAGGTGG AGAACCAGAT TGGTTATACT ATAAAGATTT	11340
AACTGAATTA ACTGAAAAGA GTTTGCTTAA AAGTTTATAG AAAAAGGGTA AACCCTTGGT	11400

473

GAAAAAGGCT	GAAACCTTTG	GCATTGCGTT	GAAAAAGTTA	AAACGTGAAG	AACTATCGAT	11460
TTTTAAGAAT	ATAACAAAAG	AAACCTCTGA	ACGTAGAGAA	TATAGTGATA	AAAGTTTAGA	11520
ATATTATGAG	CATTTTATATG	ATACTTTTGG	AGAACAAGCG	GAGTTTCTCA	TAGCAAGCTT	11580
AAATTTTTCG	GACTATATGA	GCAAATTGCA	AGGTGAACAA	AGTAACTAG	AAGAAAACTT	11640
GGACAAGTTG	CGACTTGATT	TGAGTAAAAA	TCCTCATTCT	GAGAAAAAAC	AAAATCAACT	11700
GAGAGAATAT	TCTAGTCAAT	TTGAAACGTT	TGAAGTTCGA	AAAGCAGAAG	CGCGAGACTT	11760
GATTGAAAAA	TATGGAGAAG	AAGATATTGT	TTTAGCTGGG	AGTTTATTTG	TTTATATGCC	11820
TCAGGAAACC	ACTTATCTCT	TTAGTGGTTC	CTACACTGAG	TTTAATAAGT	TCTATGCCCC	11880
TGCACTGCTT	CAAAAATATG	TTATGTTGGA	AAGCATAAAA	CGTGGAATAC	CTAAATACAA	11940
CTTCCTAGGC	ATTCAAGGGA	TTTTTCATGG	AAGTGATGGT	GTTTTGCGTT	TTAAACAGAA	12000
TTTTAATGGC	TATATTGTAC	GCAAAGCAGG	TACTTTCCGT	TACCATCCAT	CGCCTTTAAA	12060
ATACAAAGCT	ATCCAGTTAC	TCAAAAAAAT	AGTAGGACGT	TAAGATGAAA	AAGTCAGTAT	12120
TTAGATTTCT	TTTAGCTTCT	TTTAGTAAAA	TAATTCCTAT	TTGCTAGAAA	GGTGGAGAGA	12180
CATGCGCTGG	CTTTTTCGTT	TGATAGGGGC	TTTCTTTTCT	TTTGTGTGGC	GTTTGTTTTG	12240
GCGTCTGGTT	TGGATAGTTG	TGCTCTTATG	TGTGCTTGCT	TTCGGACTTC	TCTGGTATCT	12300
GAACGGAGAT	TTTCAAGGAG	CGCTAAAGCA	AGCAGAACGG	TCAGTAAAAA	TTGGTCAACA	12360
AAGTATTGAC	CAATGGGAGA	AAACAGGGCA	ACTGCCTAAG	TTAAGCCAGA	CAGATAGTCA	12420
CCAGCATTTCT	GAAGGAAGGT	GGGCACAGGC	CTCTGCTCGT	ATTTACCTGG	ATCCGCAGAT	12480
GGATTCACGC	TTTCAAGAGG	CTTATTTAGA	AGCAATCCAG	AACTGGAATC	AAACTGGTGC	12540
TTTTAACTTT	GAACTCGTGA	CTGAGTCTAG	TAAGCCGGAT	ATTACGGCTA	CGGAGATGAA	12600
CGACGGAGGC	ACTCCTGTGG	CAGGAGAGGC	GGAAAGTCAA	ACTAATCTCT	TAAACAGGGCA	12660
ATTCTTGTC	GTAACGGTGC	GGTTGAATCA	TTATTATTTG	TCCAATCCAT	ACTATGGCTA	12720
CTCCTATGAA	CGCCTTGTC	ATACGGCAGA	ACATGAGTTA	GGTCATGCGA	TTGGCTTGGA	12780
CCATACAGAT	GAGAAGTCTG	TCATGCAACC	AGCAGGTTCC	TTTTATGGTA	TCCAGGAAGA	12840
GGATGTTGCA	AACCTCCGAA	AAATATATGA	GACTAGTCAG	TAGGGTACTA	TCTTTCCTTA	12900
CTTTTTTTGC	TATAATGGAA	CTATGAACAA	CTTGATTAAA	TCAAACTAG	AGCTCTTGCC	12960
GACCAGCCCT	GGTTGCTACA	TTCATAAGGA	TAAAAATGGC	ACCATTATCT	ATGTAGGAAA	13020
GGCTAAAAAT	CTGCGTAATC	GAGTACGGTC	CTATTTTCGT	GGAAGTCATG	ATACCAAGAC	13080
AGAGGCTCTG	GTGTCTGAAA	TTGTGGATTT	TGAATTTATT	GTTACGGAGT	CTAATATTGA	13140

474

GGCACTTCTC	CTAGAAATCA	ACCTGATCAA	GGAAAACAAG	CCCAAGTACA	ATATCATGCT	13200
CAAGGATGAC	AAGTCCTATC	CTTTCATCAA	AATCACCAAT	GAGCGCTATC	CACGCTTGAT	13260
TATCACTCGT	CAGGTCAAAA	AGGACGGAGG	TCTTTATTTT	GGACCCCTATC	CCGATGTGGG	13320
GGCAGCCAAT	GAAATCAAGC	GGTTGCTGGA	TCGGATATTC	CCTTTTCGTA	AGTGTACCAA	13380
CCCCCCCTCT	AAGGTCTGTT	TTTATTACCA	TATCGGCCAG	TGTATGGCCC	ACACCATCTG	13440
TAAGAAGGAT	GAGGCTTATT	TCAAGTCTAT	GGCCCAGGAG	GTGTCTGATT	TTCTGAAAGG	13500
TCAGGATGAC	AAAATCATCG	ATGATCTCAA	GAGTAAAATG	GCAGTAGCAG	CACAAAGTAT	13560
GGAGTTTGAA	CGTGCGCCGG	AATACCGTGA	CCTGATTCAG	GCTATTGGAA	CGCTTCGAAC	13620
CAAGCAACGG	GTCATGGCGA	AAGATTGCA	AAATCGCGAT	GTCTTTGGCT	ACTATGTGGA	13680
TAAGGGCTGG	ATGTGTGTGC	AGGTTTCTT	TGTCCGTCAG	GtAAGCTCAT	CGAGCGCGAT	13740
GTCAATCTCT	TCCCCTACTT	CAATGATCCA	GATGAGGATT	TTTTGACCTA	TGTAGGACAA	13800
TTCTATCAAG	AAAAATCTCA	TCTAGTCCC	AATGAGGTAC	TGATTCCGCA	GATATTGACG	13860
AAGAAGCTGT	CAAGGCTTTG	GTGGATTCCA	AGATTCTTAA	GCCTCAACGT	GGAGAGAAAA	13920
AACAACGGT	CAATCTAGCC	ATAAAAAATG	CTCGTGTTAG	TCTAGAGCAG	AAGTTCAATC	13980
TGCTAGAAAA	ATCTGTGCAA	AAGACTCAAG	GAGCTATTGA	AAATCTAGGG	CGTTTGCTCC	14040
AAATCCCAGC	CCCAGTACGT	ATCGAGTCCF	TCGATAACTC	TAATATCATG	GGAAC TAGCC	14100
CTGTTTCGGC	TATGGTGGTC	TTTGTCACG	GTAACCGAG	TAAGAAGGAT	TACCGTAAGT	14160
ACAAGATAAA	AACGGTTGTT	GGACCAGACG	ACTATGCCAG	CATGAGAGAG	GTCATTGCGA	14220
GACGCTATGG	TCGAGTACAG	CGTGAGGCTT	TGACTCCTCC	AGATTTGATT	GTGATTGATG	14280
GGGGGCAAGG	TCAAGTCAAT	ATCGCTAAGC	AGGTTATCCA	AGAGGAACTG	GGCTTGGATA	14340
TTCCAATTGC	TGGGCTGCAA	AAGAATGATA	AGCACCAAAC	CCATGAATTG	CTCTTTGGAG	14400
ATCCGCTTGA	GGTGGTGGAT	TTGTCTCGCA	ATTCTCAGGA	ATTTTTCCTC	CTCCAACGCA	14460
TCCAAGATGA	GGTGACCGC	TTTGCTATCA	CTTTCACCG	CCAACTGCGC	TCCAAAAATT	14520
CTTCTCATC	TCAATTGGAT	GGGATTGACG	GTCTGGGACC	TAAACGCAAG	CAGAATCTTA	14580
TGAAGCATTT	CAAGTCTTTG	ACCAAAATCA	AGGAAGCCAG	TGTGGATGAG	ATTGTGGAAG	14640
TTGGGGTACC	TAGAGTCGTT	GCAGAGGCTG	TGCAAAGAAA	GTTGAACCCG	CAGGGAGAAG	14700
CCTTGCTCA	AGTAGCAGAA	GAAAGAGTAG	ATTACCAAAC	GGAAGGAAAC	CACAAATGAAC	14760
CATAAAATCG	CAATTTTATC	AGATGTTTAT	GGCAATGCGA	CGGCGCTAGA	AGCAGTGATT	14820
GCAGATGCTA	AAAATCAAGG	GGCCAGTGAA	TATTGGCTTC	TGGGAGATAT	TTTCTTCCT	14880
GGTCCAGGCG	CAAATGACTT	AGTCGCCCTG	CTAAAGGACC	TTCTTATCAC	AGCAAGTGTT	14940

475

CGAGGCAATT GGGATGATCG TGTCTTGAG GCTTTAGATG GGCAATATGG CTTAGAAGAC	15000
CCACAGGAAG TTCAGCTCTT GCGTATGACA CAGTATTTGA TGGAGCGAAT GGATCCTGCA	15060
ACGATTGTCT GGCTACGAAG CTTGCCTTTG CTGGAAAAGA AAGAAATTGA CGGATTGCCG	15120
TTTTCTATCT CTCATAATTT ACCTGACAAA AACTATGGTG GTGACTTGCT AGTTGAGAAT	15180
GATACAGAGA AATTTGACCA ACTGCTAGAT GCGGAAACGG ACGTGGCAGT TTATGGTCAT	15240
GTTCAACAAG AGTTGCTTCG TTATGGAAGT CAAGGGCAAC AAATCATCAA TCCAGGGTCG	15300
ATTGGCATGC CCTATTTTAA TTGGGAGGCG TTAAAAATC ACCGTTCCCA GTATGCCGTG	15360
ATAGAAGTTG AAGATGGGA ATTACTCAAT ATCCAATTTC GTAAAGTTGC TTATGATTAC	15420
GAAGCTGAGT TAGAATTGGC CAAGTCCAAG GGGCTTCCTT TTATCGAAAT GTATGAAGAA	15480
CTGCGTCGTG ACGATAACTA TCAGGGGCAC AATCTGGAAT TATTAGCCAG CTTAATAGAA	15540
AAGCATGGGT ATGTAGAGGA TGTGAAGAAT TTTTGTGATT TTTTGTAAGA GTTCCTAAA	15600
ATAGCCAATG CAACTAAAA AAGCGATTTG CTGGTCCAAT CGCTTTTAGT ATATCTTATA	15660
CTCAATGAAA ATCAAAGAGC AAAGTAGGAA GCTAGCCGTA GGTGCTCAA AGCACAGCTT	15720
TGAGGTTGCA GATAAAGCTG ACGTGGTTTG AAGAGATTTT CGAAGAGTGT TATTGTAAGT	15780
GAGATTGATC TGGGAGGTAA GAACCACCTA GATAGGTATT GCTGAGTTTT TCAAGGGTTC	15840
CGTCTTGATA GAGTTCTTTG AGCGCTTTAT CAAATTGCTC TTTAACTCT TTTGGTTCG	15900
TTGAGAAAAT GATATAATTG CTGGGGCTAT CTGCAGAAGG TAAATCAACG ACTGAGAGGT	15960
CTAAACCACG GTCCTTGATA ATCTTTTGAA CGGATACCTT GTCAAAACT AGGAAATCAA	16020
ACTCTCCGTT AGCAAGGTCT AGGATTCGTT TACCAATATC CTCACCAGAA AAATTAATTG	16080
TAGCGGGATT ATCAGTGTGT TTCTGATTCC AGTTATTGAT GAATTGAGCG TTAGAAGTTC	16140
CGGTATCCTC TTGTGTTGTT TTACCAGCGA TCTGGTCAAG AGAAGTCAA GCATTTTCT	16200
TGTTGCTGAC AAGGACGAGG GGATTGTTGG AAATTGGAAG CGAGTAAAGG TATTTTTCAG	16260
CACGCTCTTT TGTGTAACTC AAGTTATTGG CCGCAGCCTG ATAGTGACCA GAATCAAGTC	16320
CTGGGAAGAT GCTCTCCCAG GCGGTCTTTT GGAATTGAAT CTCGTAGTCG CTGAGTTTTT	16380
CATCTACTGC CTTTAAAACT TCGATATCAA AGCCTGTCAG ATTGCCCTTG TCTTCGTAGT	16440
CAAATGGTGG CACGTCGCCA GCTGTAGCAA GGACGATTGT CTTTGTAGCG CTAGTCTCTT	16500
TGGGTGTAGC TTGATTCTCA CAGGCAACCA AAAATGGTAG GATAGCTAGT AATAGGCTAA	16560
ATTTTTTCAT ACTGTCTCCA TTCAAATGTA AAG	16593

(2) INFORMATION FOR SEQ ID NO: 53:

475

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 3510 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: double
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 53:

```

GGGATATCCT TATATCCTTG TTCCTGGAAC CATTTGTGGGA ATTGCTCAAC AGTTTTTTTCA      60
CCTTGAATTC CTGGTGCAAT GACAGTAAGA ATTTGGAAT CACGATCTGG TTTCGCCGCT      120
AGTTCCATCA ACTCTGGCAT ACTTTTCTTG CATGGACCAC ACCATGAAGC CCAAAACTTC      180
AAGTAAACCT TTTTACCCTT AAAATCAGAT AACTTAACCT CTTTGCCATC CATGGATTGC      240
AATGTGAAGT CTGGAGCATC TTTTCCAACA GCAATTTGTT GTACAGTCGT TTGTTGTTTT      300
GGCTGTTGTG CTGCTTGAGT CTTTTTAGTT TCTTCCTCAC CACAGGCCAT CAATACAACT      360
AATGACAAGA GACTTAAGCC AGCAAACATT ACTTTTTTCA TTGTCTCTCC TTTATTCAAA      420
AATCCAGCT AGAACATTTA CTTGTCCTAA TAGTAACAAA ATTCCCATTA AAACAATGAG      480
GAAACCACCA ATTTTCTTTA GTAGCATCAT ATGACGCTTG ATTTTACTAA AATATGGCAT      540
GACTAGACCT GAAGCTAGTG CCAATACCAA GAAAGGAAGG GCCATGCCaG AGTGTAATG      600
AGAGTATAAA TCGCTCCTTG CCAAGCGCCA TTGCCTCCAG AAGCCGCAAG TGCTAAAACA      660
GAACTTAAAA CTGGACCAAT ACAAGGTGTC CAACCAAAGC TAAAGGTAAT ACCAAGTAAA      720
AAAGCTGACC AATAACGATT AGAATCTGAT TTTTAAAGG TAAACTTTT TTGAACTTCT      780
AATTCTTCA AATGAAAAAT TTCCATCTGG TGAAGACCCA AAATGATAAT AATAGCTCCC      840
ATGCCATATC GAAACCAATT TGCAATAGAGA ATATGACCAA AGTAACCAGC ACCAAAGCCT      900
AGAATAAAGA AAATGAGAGA GATACCAGCG ATAAAGCAAA GTGTTTGAAT CAAGCCTGAC      960
CAGAGAACCT TTCTCCCAA CAAAGAAAAG CTTTTTGCAC TTTCTTGATC ATCCAATAAA      1020
ATCCCAGCAT AGACTGGCAG AAGAGGAAAA ATACAAGGAG AAAAAAAGGA TAAACACCT      1080
GCTAGAAAAA CAGAGATTAA AAATACTATC GTTTCCAATA AAGAACCAAC TTTCTTAATA      1140
ATTCTAATCC TATTTTACTA TATTCAATTT TATTGTAAG CTTTCTGCTA CGCAAAATCG      1200
TATCGGGCAC TATTGGACCA ATCTTTTCTT TTGCTAGTCA AGGCGGATCT TATCCCCCAA      1260
AATAGCCAAA AAGCAACGAC AAGGATTACT CATCGCTGCT TTTGTGAACG AAAATGTCTT      1320
TTAGGTCTGA CATTTCATAA ATCATGTTTT ACTTGAGTTT GTCAAGGAT GCTTTAAGCT      1380
CCTCTACTAG TTTAGTTTCT GTCTCTGCTG AGCCATTTTC TTTCTTCACG AAATCAAGCG      1440
TTTCTTGGAG AAGGTTTTGG GCTTTGGCAA GGACTTTTTT ATCCGCTTTT TCTGCATCTA      1500

```

477

GCTGTCCTAG AACCTTGATC AATTCCTGTC TTAATTGCTG GATTTCTGAC TCTTCTTAC	1560
GGCGAATCAG CCAGAAGGCA ATCACGCCTA GGAGGGCAAG TAGACTGACC ACAATCACTC	1620
CTGCCGGAAC TGAGTTTGTT TCAGTCATCT TATCTGAATC CITACTATCT TCCGTTCTTT	1680
GTTTTGCATC CTTCTTGTC TGTGCAGGCT TGCTGTCGCT AGCATTTGCT TTCACATCTT	1740
TGAGAGAGTC CAAGGCAGCC CAGCCTTCAC AGACTCTACT GCAGTATGCA GACCTTACTC	1800
TGTCAAGGCA CTATCTTCCG GAGCTTTTTC AGCATCTAGG AGGACAGCCT TGGTTGCATC	1860
GATTTTCGGA TCAGATACTG TTGCCAAAGC TTTCAAGCGT TGGTCTAACT CTTGACTCAA	1920
GGCACGAAGT TCAGACTTGT CAACTTGCTC TTGAGCTTGT GTGCTCGTTG AGCTAGCCGA	1980
AGCGCTTGCT ACCACTCTAG GATCTTGAGT CGGAGCTGAG CTTGGAGCTG GGACAGGGCT	2040
TGCAGGTTGA CTAGGAACAG TTATGGTATA TTGAACTAG AATAGTACAT ATGGACTTCT	2100
AAAACATTGT TAGAATTCTA TTTTACTGTC CTGATCGATT TGTCTATTTC TTATTTCAAT	2160
TTACTATAAT AACCGATGGT GTGGTTAATG TTGGTAAGAG AACTTCTGA AACCAAGCTT	2220
CAAAAAAGTC GCTCGTCATC GTCTCTTCGT AAGTCATGG AGCGATTAAT TCACCATTTG	2280
TTAGACCTGC AACCAAAGAA ATCCTCTGAT ATCTTCTTCC AGATACTTTG CCTCTTATTA	2340
ACTGACCTTT TAATGAGCGA CCATATTCTC GATAAAAATA AGTATCGAAT CCTGTTTCGT	2400
CAATCTAAAC AGGTGCTAGG TGCTTTAAAC TATTAAAAAT CTTAAGAAAT AAGGCTACTT	2460
TTTCTGGGTC TTGTTCATAG TAGGTGTGGT TCTTTTTCCT GAGTGTAGCC CATAGCTTTG	2520
AGCGCATAGT GGATGGTAGT TGGATGACAG CCAAATCAG AAGCTATTTT AGTCAAATAA	2580
GCCTCTGGAT TGTCAGTAAG ATAGTTTCTA AGTCTATCTC TATCAACTTT TCTTGGTTTT	2640
GTTCTTTTTC CTGGTGGTGT TAGCTCTCCT GTTTTCTCTT TTAGCTTTAA CCAGCCATAA	2700
ATGGTATTAC GTGAGATTG GAAAACGTGT GATGCTTCTG TTATACTACC TATTCGCTCA	2760
CAATAAGAGA GAACTTTTTT ACGAAAATCT ATTGAATATG CCATAAGAAG ATTATACCAC	2820
ATTGTGTACT ATTTTGGTGT CATTTCTACTA TAACACAAAA TAGATTATTA TTACATAACA	2880
AAAAAGAGGT CTAAACCTCT TAACTCAATT ACTCCGCCAG TAGGACTCGA ACCTACGACA	2940
TCATGATTAA CAGTCATGCG CTACTACCAA CTGAGCTATG GCGGATTAAA GCTAAGCGAC	3000
TTCCCTATCT CACAGGGGGC AACCCCAAC TACTTCCGGC GTTCTAGGGC TTAACCTCTG	3060
TGTTCCGGCAT GGGTACAGGT GTATCTCCTA GGCTATCGTC ACTTAACTCT GAGTAATACC	3120
TACTCAAAAT TGAATATCTA TTCAATTTAA GAAAACCGTT CGCTTTCATA TTCTCAGTTA	3180
CTTTGGATAA GTCCTCGAGC TATTAGTATT AGTCCGCTAC ATGTGTCGCC ACACTTCCAC	3240

478

TTCTAACCTA TCTACCTGAT CATCTCTCAG GGCTCTTACT GATATATAAT CATGGGAAAT	3300
CTCATCTTGA GGTGGKtCA CACTTAGATG CTTTCAGCGT TTATCCCTTC CCTACATAGC	3360
TACCCAGCGA TGCCTTTGGC AAGACAACTG GTACACCAGC GGTAAGTCCA CTCTGGTCCT	3420
CTCGTACTAG GAGCAGATCC TCTCAAATTT CCTACGCCCG CGACGGATAG GGACCGAACT	3480
GTCTCACGAC GTTCTGAACC CAGCTCGCGT	3510

(2) INFORMATION FOR SEQ ID NO: 54:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20986 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 54:

CGGAGAAAAA CATGGCTAAG TCAAACCTTG AAAAAGTAGA ATCAGTTGTT GGCTGGGTTC	60
GTGATAAGAA AATCACAGGC TACCGTATCT CTAAAGAAAC GAATGCGCGT GAAATGTCTA	120
TCATTGCTCT GCGCAGGGT CGTGCAAAAG TAAAAATAT TTCATTTGAA ACAGCCCTAG	180
GCCTAATTGA TTTCTATGAA AAAAATTATG AAAAATTGA AGATTAATCT TTGGATAACG	240
GCGGATTCTT GACCTTCAAG TACTAGAGAT AGAGAATCTG CCTTTTCATT TTGAGGACAG	300
CAAAAAGACT GCACGGTTGA TGCAGCCTTT TCTTTTATT TGAGATAGCG TTGAAGGAAC	360
TCTTTGTTC GGTCTCTTT AGGATTGGTG AAGAGGTCTT CTGGTTTACC TTCTTCAGCG	420
ATCACGCCCT TATCCATAAA GATAACACGG TGAGAGACAT CACGGGCAAA TTCCATTCA	480
TGGGTTACGA CAATCATGGT CAAGCCTTCC TGAGCCAGGT CCTGCATGAT TTTGAGGACT	540
TCTCCAACCA TTTCTGGATC GAGAGCTGAT GTTGGTTCAT CAAAGAGAAT AGCGTCCGGA	600
TTCATGGAGA GGGCAGGAGC GATGGCCACA CGTTGTTTTT GACCACCTGA GAGTTGTTTT	660
GGTTTGGCTT GCCAGTAGCG TTCTCCCATG CCGACCTTTT CCAGGTTTTC TTGGCAATC	720
TTTTCAGCTT CTGTGCGTTC GCGTTTTAGG ACAGTTGTCT GAGCGACGAT TGTGTTTTCA	780
AGAACATTGA GATTTTCAA GAGGTTAAAG GATTGGAAAA CCATCCCCAA CTTTTCACGG	840
TATTGCGTGA GGTCTAGGCC TTTTTCGAGG ACGTTTTGTC CATGATAAAG GATTTGTCCA	900
TCAGTTGGTG TTTCAAGTAG GTTAATGGAG CGTAGGAAGG TCGATTTTCC GCTTCCAGAG	960
CTTCCGATGA TAGAGATGAC CTCTCCCTTG TGGACAGTGA GTGAAATGTC TTTTAGCACT	1020
TCGTTTTGTC CATAGGATTT TTTGAGGTGT TTAATTCAA GGATTGCTTG TGTCAATTAT	1080
TCAAATCCTC CGTTTGCATT TGGTTAGCAC CTGTAGTGA GGTATCCATG TCCATTCTGC	1140

479

GCTCGATAAA GCGTAGGATA CGTGTACGG TGAAGGTGAG GACAAAGTAA ATCACGGCGA	1200
TGATTGTAAA TGTCTGGAAG TATTGATAGG TTTGTGTTGC CACGGTATTT CCTGAGAAAT	1260
AAAGTTCGAC AACAGAGATA ACGTTCAATA CAGATGTATC TTTGATATTG ATGACAAATT	1320
CATTACCAGT TGCAGGTAGG ATGTTACGGA CTACCTGAGG TAGGACAATC TTACGCATGG	1380
TCTGGTTATG GGTACATACCA AGAGCAGTCG CAGCTTCAAA TTGTCCCTTG TCAACTGCTA	1440
GGATACCACC ACGGACGATT TCAGTCATGT AGGCACCGGT ATTGATTGAA ACGATGAAGA	1500
TAGCAGCCAG TGTACGGTCA AGGTTGATCC CGAAACCTTG GGCAGTTCCA TAGTAGATAA	1560
CCATCGATTG AACAAATCATT GCGTACCAC GGAATAATTC AATGTAGACA TTGAGAACCC	1620
AGCCGACTAG TTTTGTAGG CCGTAAATGA CTTTGTTTTC AGAGAGAGGA GCAGTACGGA	1680
AGACACCAAT GGCAACTCCA ATAATGAGAC CTATGATGGT TCCGACGATA GAGATTAAAA	1740
GAGTGATACC AGCACCACGC AAGAGTTGTT GCCAGTTTTC AGAAAGAATT TTAGCAACTT	1800
GGCTAAAGAA ACTACTGCTA GTCTCTTCAG TTGTTGTAGC TTCGCGCAGT TGTTCCTTGA	1860
TCATACGATC CATCAAGGCA ACTTGGTCAT CTTTGTAAAT GGTTCGAATG CTGGCATTGA	1920
TTTGGCTAAT ACGATTGTCA TTTTACGAA GCCCGATAGC GATAGCTGTA TCTTCTTCCC	1980
CAGTTTTGAA ACCAGGTTCT ACTTGAATCA TCTTGAACCT AGAGTTCGCA GCTTCAGCAG	2040
TCAGTGCTTC TGGACGTTCA GAAACATAAG CATCAATGAC ACCAGCCTCA AGAGCTTGTC	2100
GCATTTGAGC GAAGTCTCCC ATGGCTGTTT CTTTTTTAGC ACCTGGGATT TGTGCAATCA	2160
AGTTATAAAG GTAGACCCCT TGTTGAGAAG TGATTTTTGC ACCGTAAAG TCATCCAAAG	2220
ATTTAGCACT TCGTAGGCA GAATCTTTTT TGACAAGCAA AACTGGTTCG CTAGTATAGT	2280
AACTGCTCGA AAAGGCAATT TCTTGTTCG GTTCTGCAGT TGGACTCATA CCTGCGATAA	2340
TCATGTCAAT CTTACCAGAA GTAAGGGCAG GGACTAGACC TTCCCACTTG GTTTTAACAA	2400
CCAAAGGTTT TTTACCTAAG TCCTTAGCGA TTTTCTTGGC GATTGAACA TCGTATCCGT	2460
TGGCATACTG ATTGGTCCCA TCGATTTTGA CAGCTCCGTT GCTATCATCA TCCTGGGTCC	2520
AGTTAAAGGG AGCATATGCT GCTTCCATAC CGATGCGTAA ATATTCATCG GCTTGAGCAA	2580
CATTGACAAG TCCTAGCATC AGCAACAGAC TTGTGAAAAT AGATAAGTAY ATGTGGCTCA	2640
TGATTTCTCC TATTCTGATC TATTAAAAAA TAACTGTCTC CTATTTTATC GAAAAATGCG	2700
TAATTTTTC AATAAGTAA GTCTTTACTT ACGAAAAAAT GCTATAATGA TAAGAAAGAT	2760
AAAAAGGGG CTTAGTTGAT GAAAAAACT TTTTCTTAC TGGTGTTAGG CTTGTTTTCG	2820
CTTCTCCAC TCTCTGTTT TGCCATTGAT TTCAAGATAA ACTCTTATCA AGGGGATTG	2880

480

TATATTTCATG CAGACAATAC GGCAGAGTTT AGACAGAAGA TAGTTTACCA GTTTGAGGAG	2940
GACTTTTAAGG GCCAAATCGT GGGACTTGGA CGTGCTGGTA AGATGCCTAG CGGGTTTGAC	3000
ATTGACCCTC ATCCAAAGAT TCAGGCCGCG AAAAACGGTG CAGAACTAGC AGATGTGACT	3060
AGCGAAGTAA CAGAAGAAGC GGATGGTTAT ACTGTGAGAG TCTATAATCC AGGTCAGGAG	3120
GGCGACATAG TTGAAGTTGA CCTCGTCTGG AACTTAAAAA ATTTACTTTT CCTTTATGAT	3180
GATATCGCTG AATTAAATTG GCAACCTCTG ACAGATAGTT CAGAGTCTAT TGAAAAGTTT	3240
GAATTTTCATG TAAGGGGAGA CAAGGGGGCT GAAAACTCT TTTTCCATAC AGGGAAACTT	3300
TTTAGAGAGG GAACGATTGA AAAGAGTAAC CTTGATTATA CTATCCGTTT AGACAATCTT	3360
CCGGCTAAGC GTGGAGTTGA GTTGCAATGCC TATTGGCCTC GGACCGATTT TGCTAGCGCT	3420
AGGGATCAGG GATTGAAAGG GAATCGTTTA GAAGAGTTTA ATAAGATAGA AGACTCGATT	3480
GTTAGAGAAA AAGATCAGAG TAAACAACTC GTTACTTGGG TCCTCCCTTC GATCCTTTCC	3540
ATCTCCTTGT TATTGAGTGT CTGCTCTCTAT TTTATTTATA GAAGAAAGAC CACTCCTTCA	3600
GTCAAATATG CCAAAAATCA TCGTCTCTAT GAACCACCAA TGGAATTAGA GCCTATGGTT	3660
TTATCAGAAG CAGTCTACTC GACCTCCTTG GAGGAAGTGA GTCCCTTGGT CAAGGGAGCT	3720
GGAAAATTC ACTTTGATCA ACTTATTCAA GCTACCTTGC TAGATGTGAT AGACCGTGGG	3780
AATGTCTCTA TCATTTTCTA AGGAGATGCA GTTGGTTTGA GGCTAGTAAA AGAAGATGGT	3840
TTGTCAAGCT TTGAGAAAAG CTGCCTAAAT CTAGCTTTT CAGGTAAAAA AGAAGAACT	3900
CTTTCCAATT TGTTTGCGGA TTACAAGGTA TCTGATAGTC TTTATCGTAG AGCCAAAGTT	3960
TCTGATGAAA AACGGATTCA AGCAAGAGGG CTTCAACTCA AATCTTCTTT TGAAGAGGTA	4020
TTGAACCAGA TGCAAGAAGG AGTGAGAAAA CGAGTTTCCT TCTGGGGGCT CCCAGATTAT	4080
TATCGTCTCT TAACTGGTGG GGAAAAGGCC TTGCAAGTGG GTATGGGTGC CTTGACTATC	4140
CTGCCCCAT TATCGGATT TGGTTTGTTC TTGTACAGTT TAGACGTTC TGGCTATCTT	4200
TACCTCCCTT TGCCAATACT TGGTTTCTA GGGTTAGTTT TGTCTGTTTT CTATTATTGG	4260
AAGCTTCGAC TAGATAATCG TGATGGTGT CTAAATGAAG CGGGAGCTGA GGTCTACTAT	4320
CTCTGGACCA GTTTTGAAAA TATGTTGCGT GAGATTGCAC GATTGGATCA GGCTGAACTG	4380
GAAAGTATTG TGGTCTGGAA TCGCCTCTTG GTCTATGCGA CCTTATTTGG CTATGCGGAC	4440
AAGGTTAGTC ATTTGATGAA GGTTCATCAG ATTCAAGTGG AAAATCCAGA TATCAATCTC	4500
TATGTAGCTT ATGGCTGGCA CAGTACGTTT TATCATTCAA CAGCACAAAT GAGCCATTAT	4560
GCTAGTGTCT CAAATACAGC AAGCACCTAC TCTGTATCTT CTGGAAGTGG AAGTTCTGGT	4620
GGTGGCTTCT CTGGAGCGCG AGCTGGCGGC AGTATCGGTG CCTTTTAAAG AGAGCTACCA	4680

481

TAGACTGAAA AAGTATGATA TAATGGAAGA TAGAAAAAAG ACAAACCTATA AGAAAAGTCA	4740
ATAGTTTTAT CTAAACTATT TCTTATTTCA ATTTGATGAT TTGGCGATGA TTTTAGAGCA	4800
CGGCAAAAAG CCCTTGAAAA AGTCCATTTT TTCAAAGGTA ATCCTGTGTT AATTTCAGAA	4860
ATTACATCAC TTTTGTTCG TCAAATGGCA GCTCTTTTTT AGGATATAAA ACAGGGTTCG	4920
GATAAGTTTT TTTGCAAGGT GGATGATGGC TACATTGTAA TGTTCCTT ATCTAACTT	4980
AGTCTTAAGA TAGGCCTTAG AAGCAGGTGA AAAGCGAGGG CATGCTTTGG CAGCTTGTAT	5040
GAGTGCCAC CGCAGATGAG GGAACCCCG TTGACCATT CTCCAGCTA AATCAATCTG	5100
ACCTGACTGA TAAATAGAAG AATCCAGTCC AGCGAAAGCT TGTAATTGAG CAGGATTATC	5160
AAAGCATGA ATATTCGAA TCTCGCTAA AATGACCGCC CTAAACGATC CCCAATCCCA	5220
GTAACCGTCG TGATGACCGA GTTGAACCTA GCCATCGAGT CATTGATACA TGTTCCGCC	5280
TTGTCAATGA GCCTCTTGTA ATGCTTGATG ATTTCAATT CACGAGCAGG AGATGTTGTT	5340
CCGATAGAAC GAGGTGCGAC TGAGAGGATA TCCTGAATTT TAGAAGCGGT CAATCGCTTA	5400
ATTTCTATCA GCTTATCAA TCCTGCCTCA ATCCTTTTCT GAGGATTAGG GTAGCGTGTG	5460
AAGAGTTGGT AGGTATATTC TGAATGCTTT CCAACGATTT TATCCAACCTC AGGAAAGATG	5520
ATATCAAGAC AACGAGTGTA TTGACTTTC CAATCAGACT GTTTTCTTG AGACGATGAA	5580
TATGCTAGC CAGTATTTTT AGGTCTACTT GCCGATTATC GTGTTGAAAT TGTTACGAT	5640
TGGGGTCAGA AAGAACTTTA AGAGCGATGC CATGAGCGTC TTTCTTATCC GTTTTAGTCT	5700
TGCGAAGTGA TAATGATTTG GCAAATTCCT TGATGAGCAA AGGATTGTAG GTGTAAACTT	5760
TATATCCTTG TTCATGCAGG AAGTTCAGTA GATTAAAGGC ATAATGTCCA GTATCTTCAA	5820
GAGCGATGAG ACAGTCTTGG TTGATCTGTC GAATAGACAG ATCTAAGAGT TCAAAACCG	5880
CTTTATTATT TGAAAAAGTG AGTGGTTTAA GAACAGTTTT TCCTGGAACA TTCAAGGCTG	5940
TAACATCGTG TTTATTTTTA GCGATATCAA TGCCTACATA AAGCATGGGA GTACCTCCAG	6000
ATATAGTATT TCAAGTCTAC TTGGTTATCC ACGAATTTTT TGCCTTGTTA CCTTAGACGA	6060
GATCAAACGT CTATGCGTTA TCAAACCTCAT TACCAATTGA AACAAAAGCT GTGGTTAGAG	6120
CCTTTCGGAA ATCGTCAAGC GATTGGAGGA AATGAACATA TCCATAGTGG CTTATTCCAA	6180
GTATACCACT TGGGCTTTGG CAGTAGCTAA CTGCGCTAAA TATAATATAG GGAGTAATCT	6240
ATGTATCTTA TTGAAATTTT AAAATCTATC TTCTTCGGAA TTGTTGAAGG AATTACGGAA	6300
TGGTTGCCGA TTTCCAGTAC AGGTCACCTG ATTTTAGCAG AGGAATTCAT CCAATACCAA	6360
AATCAAAATG AAGCCTTTAT GTCCATGTTT AATGTCGTGA TTCAGCTTGG TGCTATTTTA	6420

482					
GCAGTTATGG	TGATTTATTT	TAACAAGCTC	AATCCTTTTA	AACCGACCAA	GGACAAACAG 6480
GAAGTTCGTA	AGACTTGGAG	ACTATGGTTG	AAGGTCTTGA	TTGCTACTTT	ACCTTTACTT 6540
GGTGTCTTTA	AATTTGATGA	TTGGTTTGAT	ACCCACTTCC	ATAACATGGT	TTCAGTTGCT 6600
CTCATGTTGA	TTATCTACGG	GGTTGCCTTC	ATCTATTTGG	AAAAGCGCAA	TAAAGCGCGT 6660
GCTATCGAGC	CAACTGTAAC	AGACTTGGAC	AAGCTTCCTT	ATACGACCGC	TTTCTATATC 6720
GGACTCTTCC	AAGTTCTTGC	TCTTTTACCA	GGGACTAGCC	GTTTCAGGTG	AACGATTGTC 6780
GGTGGTTTGT	TAAATGGAAC	CAGTCGTTCA	GTTGTGACAG	AATTTACCTT	CTATCTTGGG 6840
ATTCCTGTTA	TGTTTGGAGC	TAGTGCCTTA	AAGATTTTCA	AATTTGTGAA	AGCCGGAGAA 6900
CTCTTGAGCT	TTGGGCAATT	GTTTTTGCTC	TTGGTCGCGA	TGGGAGTAGC	TTTTGCGGTC 6960
AGCATGGTGG	CTATTCGCTT	CTTGACCAGC	TATGTGAAAA	AACACGACTT	CACCCTTTTT 7020
GGTAAATACC	GTATCGTGCT	TGGTAGTGTT	TTGCTACTTT	ACAGTTTGTG	CCGTTTATTT 7080
GTATAAGAAA	AACCTTGAAG	GGGCAACTCT	TCAAGCTTTT	ATACTCTTCG	AAAATCTCTT 7140
CAAACCGCGT	CAGCTTTATC	TGCAACCTCA	AAACAGTGTT	TTGAGCAGCA	CTGCGGCTAG 7200
CCTCCTAGTT	TGCTCTTTGA	TTTTTCATTGA	GCTTTAAAAT	CCAGTCATGG	TAATCCCCAA 7260
TAGGCGGACA	CCTCTTCTTT	TCTTGCTTAA	TTCTTCATAG	AGTTGCAGGG	CTATTTGGCT 7320
TATCTGACTA	GCATCTTGTC	TTTTTTGAGC	AAGACTTTTT	CGTTTGGTAA	GAGTTGAAAA 7380
GTCTCTGTAG	CGGATTTTCA	AAATGACAAT	TTTTCCAGCT	TTTTCTTGTT	GATGTAGATT 7440
GAGAGCGACT	TTTTCTGATA	GAAGAGTCAG	CTCTTTTTTG	ATATCTTCCT	CAGCAAGGAG 7500
AATCTTCCCG	TAGGTTTTCT	CCTTGCCGAT	TGATTTACGG	ATGCGATTGG	ATTTGACTGG 7560
AGAGTTGTGA	ATGCCACGAG	CCTTTCGATA	CAGATCATAG	CCTAGTCTAC	CAAAACGGTC 7620
TATTAGGGTT	ACCTCAGGAA	CTTCAAGTAA	ATCAGCACCA	GTAAAAACGC	CCATTTGATG 7680
AAGACGTTC	ACTGTCTTTT	TTCTTACTCC	ATGAAATTTG	GAAATATCCA	TTTGTTTGAG 7740
AAAATCCTCA	GCCTGTTTCA	GTAGAATCAC	TGTCAAACCA	TGTGGTTTTT	GATAATCACT 7800
CGCCATTTTA	GCTAAGAAAT	TGTTGTAAGA	AACGCCCTGCG	GAAGCAGTTA	GATGGAGTTC 7860
TTGCCAGATA	TCTTTTGTAA	TGAGGCGAGC	AATTTTGACC	GCTGACTTGA	TACCGAGTTT 7920
ATTTTCTGTC	ACATCCAAAT	AGGCTTCGTC	AATGCTCATG	GGTTCAATCA	AATCTGTATA 7980
GCGCTTAAAA	ATAGCTCGAA	TCTGGAGTCC	CACAGACTTG	TATTTCTCAT	AATTCCTTGA 8040
GATAAAGACA	GCCTGGGGAC	AACGTTTATA	AGCTTCCTTG	GAACATCATG	CAGAAATGGAC 8100
ACCAAAAGCT	CTTGCCTCAT	AACTACAGGT	AGAAACGACT	CCCCGTCCAC	CTGTTTGCCG 8160
AGGGTCGCTT	CCAATAATGA	CAGGTTTTCC	TCTGAGTTTA	GGATTATCCC	TGATTTCCAC 8220

483

TGCAGCAAAA AAGGCATCCA TGTCAATATG GATGATTTTT CTGACAAAT CATTTAACAA	8280
AGGAAAAATC AACATGCCTA GCACCTTTTT ATACTCTTCG AAAATCTCTT CAAACCACGT	8340
CAGCTCTATm TGCAACCTCA AAACAGTGTT TTGAGCAATC TGC GGCTAGC TTCCTAGTTT	8400
GCTTTTCGAT TTCCATGAG TGTACTGCT TATTyTCTT TATTATACCC TTTTTCCTGA	8460
AAAAAAGAAA AAAGGACTTT ATTTTTTCAA AAATATAATA CAGTTTGAAA TAAAATATAG	8520
ACTGT'TTTAG AAAAGAAAGT GTAAAAATAG GGAATTTTCA CTGTGTGAAA TCGGTACTA	8580
TATGGTATAC TTGTCTTATG AATGTAACAG ATGACTGTTA CTAGAAAAA GAGGACATTA	8640
ATATGGTTGT TAAGACAGTT GTTGAAGCAC AAGATATTTT TGACAAAGCT TGGGAAGGCT	8700
TCAAAGGCGT AGATTGAAA GAAAAAGCAA GTGTATCACG ATTTGTACAA GCTAACTACA	8760
CACCTTATGA TGGAGACGAA AGCTTCCTTG CAGGACCAAC AGAGCGTTCA CTTCACATCA	8820
AGAAAATTGT AGAAGAAACT AAAGCACACT ACGAAGAAAC TCGTTTCCCA ATGGACACTC	8880
GTCCAAACATC TATCGCTGAT ATCCCTGCTG GATTTATCGA CAAAGAAAAT GAAGTTATCT	8940
TCGGTATCCA AAACGATGAA CTCTTCAAAT TGAACCTCAT GCCAAAAGGT GGTATCCGTA	9000
TGGCTGAAAC TACTTTGAAA GAAAATGGAT ACGAACCAGA CCCAGCTGTT CACGAAATCT	9060
TCACTAAATA TGTAACAACA GTTAACGACG GTATTTTCCG TGCCTACACT TCAAATATTC	9120
GTCGCGCTCG TCACGCACAC ACTGTAACGT GTCTTCCAGA TGCATACTCA CGCGGACGTA	9180
TCATCGGTGT TTACGCACGT CTTGCTCTTT ACGGTGCAGA CTACTTGATG CAAGAAAAAG	9240
TAAATGACTG GAATGCAATC AAAGAAATCG ATGAAGAAAC AATCCGTCTT CGTGAAGAAG	9300
TAAACCTTCA ATACCAAGCA TTGCAACAAG TTGTTGCGCT GGGTGACCTT TACGGGGTTC	9360
ATGTTGCGAA ACCAGCGATG AACGTGAAAG AAGCAATCCA ATGGGTAAAC ATTGCTTTCA	9420
TGGCTGTCTG CCGTGTGATT AACGGTGCTG CTACATCTCT AGGTCGTGTA CCAATCGTAT	9480
TGGACATCTT TGCAGAACGT GACCTTGCTC GTGGTACATT TACTGAATCA GAAATCCAAG	9540
AATTCGTTGA TGATTTCTGT ATGAACTTC GTACAGTTAA ATTTGCTCGT ACAAAGCTT	9600
ATGACCAATT GTACTCAGGT GACCCAACCT TTATCACAAC TTCTATGGCT GGTATGGGTA	9660
ACGACGGTCG TCACCGTGTT ACTAAGATGG ACTACCGTTT CTGAACACT CTGACAACA	9720
TCGGTAACTC ACCAGAACCA AACTTGACAG TTCTTTGGAC TGACAAATTG CCATACAAC	9780
TCCGTCGCTA CTGTATGCAC ATGAGCCACA AACACTCTTC TATCCAATAC GAAGGTGTAA	9840
CAACAATGGC TAAAGACGGA TATGGTGAAA TGAGCTGTAT CTCATGCTGT GTGTCTCCAC	9900
TTGATCCAGA AAATGAACAA CAACGCCACA ACATCCAGTA CTTCGGTGCT CGTGTAACG	9960

484

TTCTTAAAGC CCTTCTTACT GGTTTGAATG GTGGTTACGA CGATGTTTAC AAAGACTACA	10020
AAGTATTTGA TATCGAACCA ATCCGTGACG AAGTTCTTGA ATTTGAATCA GTTAAAGCGA	10080
ACTTTGAAAA ATCTCTTGAC TGGTTGACTG ACACTTACGT AGATGCCTTG AACATCATCC	10140
ACTACATGAC TGATAGGTAC AACTACGAAG CTGTTCAAAT GGCCTTCTTG CCAACTAAAC	10200
AACGTGCCAA CATGGGATTC GGTATCTGTG GATTTGCTAA CACTGTTGAT ACATTGTCAG	10260
CTATCAAATA CGTACAGTT AAACCAATCC GTGACGAAGA TGGCTACATC TACGATTACG	10320
AAACAATCGG TGACTIONCA CGCTGGGGTG AAGATGACCC ACGTTCAAAC GAATTGGCAG	10380
AATGGTTGAT CGAAGCTTAC ACAACTCGTC TACGTAGCCA CAACTATAC AAAGACGCAG	10440
AAGCTACAGT ATCAGTTTTG ACAATCACAT CTAACGTTGC TTACTCTAAA CAACTGGTA	10500
ACTCACCAGT TCACAAAGGT GTATACCTCA ACGAAGATGG TTCTGTGAAC TTGTCTAAAC	10560
TTGAATTCTT CTCACCAGGT GCTAACCCAT CTAACAAAGC TAAAGGTGGT TGGTTGCAAA	10620
ACTTGAAGTC ACTTTCTAGC CTTGACTTTA GTTATGCAGC TGACGGTATC TCATTGACTA	10680
CACAAGTATC ACCTCGCGCT CTTGGTAAGA CTCGTGATGA ACAAGTTGAT AACTTGGTAA	10740
CAATTCTTGA TGGTTACTTC GAAAACGGTG GACAACACGT TAACTTGAAC GTTATGGACT	10800
TGAACGATGT TTACGAAAAA ATCATGTGAG GCGAAGACGT TATCGTACGT ATCTCTGGAT	10860
ACTGTGTAAA CACTAAATAC CTCACTCCAG AACAAAAAAC TGAAATTGACA CAACGTGTCT	10920
TCCACGAAGT TCTTTCAATG GATGACGCCT TGGATGCATT GAGCTAATCA AGTTCTTGAA	10980
TAATAAAAAG GAACCTCGG TCAAACGACT GAGGGTTTGG TGCTTGGGAT AGTATGAGCA	11040
ATTCCTTCGG CGCAATATGC AATGTTTTTG GGCTCTTTGT CAACTGTAGT GGTTGAAAA	11100
AAAGCTAAGC TTGAGAAAGG ACAAATTTTCG TCCTTTCTTT TTGATGTTT AGGGCGATAA	11160
AAATCCGTTT TTGAAGTTT TCAAAGTTCC GAAAACCAA GGCATTGCGC TTGATGTCTT	11220
TGATGAGTTT GTTAGTGGCC TCAAGTTTAG CGTTAGAATA AGGCAATTCA ATGGCGTTAG	11280
TGATGTAGTT TTTATAGCAA ATAAATGTGC TCAAAGTGGT TTTAAAGGTG CGGTTGAGAT	11340
GAGGTAACGT GTCTTGAAAT AAGCCCCAAA ACTGGTCAGT ATTCTTCTCT TGTAGATGAA	11400
ATAGGAGTAG TTGATACAGG TCATAGTAAT CTTTAAGTTC AGGTACTAGA GTAAAGATTT	11460
TCTTCAGACA CTCCCTAGGA GTTAAGGTCT CTCTGAAAGT TCTAGCATAG AAAGGCTTAA	11520
GAGAGAGTTT CCGACTATCT TTTAGGATAA ATTTCCAGTA ATATTTAAGA GCTCTGTATT	11580
CCAGAGATTT ATCATCAAAT TGCTTCATGA TGTGATTCT AGTCTGATTA AGAGCCCTGC	11640
TCATGTGTTG GACAATGTGG AAACGATCGA GAACAATTTT AGCATTGGGA AATAATTTCT	11700
TAATGAGAGG GATATAACTT CCAGACATAT CAACAGTGAC GACTTTAACT TTTTTTCTAG	11760

485

CTTCTTTTCGA GTACTTGAAG AAATGATTTC GGATGGTTGT TFGACGTCCTG TTATCAAGAA	11820
TGGTCATGAT TTTCTTAGTG TTGAAATCCT GAGCAATGAA AGCCAATTTT CCCTTCTGGT	11880
AGGAGAATTC ATCCCAGGAG AGGATTTTCAG GCAAAGTGGT GTAATCCTCT TGGAAATGAA	11940
ATTGCTTGAG CTTACGATAG ACGGTAGAGG TAGAGGTAGA GGTAGAGATG GCTAATTTAG	12000
AAGCGATATG TGTAAAGAGCC TCTCTGTTGA GTAGGAGTTG GGCAATTTTC TGTCTACCA	12060
TTTCCGAGAT TTGGCAATTT TTCTGAACGA GAGTTGTTTC AGCTACAGTG ACTTTCCGAC	12120
AGGACTTGCA TTGAAATCGT CTCTTTTTC AATGAATGAG GCTAGGGAAA CCACCAATCT	12180
CGATAAAAGG GATTTTAGAA GGCTTTTGGA AGTCGTATTT GATTGTTTTT CCTTACAGT	12240
GTTTACATTT AGGTGGGTGA TAATCAAGTG TAGCGAAGAC TTCGATATGC GTATCGTGCT	12300
GAATGGCTTT ATTTAAGGTG ATGTTTTTGT CTTTATTCC GATGAGTAAT GTGGTATGAT	12360
TGATGTGTC CATAAGATAC TTCTAATGA GTTGTTTAGG CGCTTTTCAT TATAAGTCTT	12420
ATGGGACTTT TTTGATACTC AAAAAGCCCT ATAATCTCCA CAGTGGGATT TACCCACTAC	12480
AGAAATTATA GAGCCAGAAA AAACACTTTT GTTCACTAGC AGAACTAGA GAGCAGAAGT	12540
GTTTTTCTGT TCAGATTTAC CCAAACTGG GAAATATGGG GATAAGAATA GAGATGGCTT	12600
AGGAAGCCCC TTTTGTGTG TAGACAGTAC GATGAACTTA TAACAAATAG TGAGCCTTTT	12660
TAGCAATCAT TGCGACCCGT TGTCAAAAG CCTCTTTTCG GATATCTACA ATTGTCTGAT	12720
AGATGAGACG CTGTTGGCTA ACATGCAAAT CTAAGGCAAT CGTCAAAAAG TGATGTTCC	12780
CTTTGGGATA CTGCTTTTGA ACGTAAGGCA GGTATTCTTT CGTTGTAATA ATAATCAATG	12840
GCTCTGTCAA ATGCTCCTCT GAAGGAGGAG GACTAATTAG AATATTGTAT CCTGTAACAG	12900
AGGCAACTTT GTCAGTAAAA TTCCGTAAAA TAATGGACTT TATTAAGTTT ACATCTGCTT	12960
GATTATTTAA AATGATAAAA ATCGGGATAG CAGGTAGTGA GGAAAAGATG GTTCTGTCA	13020
AGTAGAGTGA GAAAAGGTAC AGCCGATGCT GGTGATAAC TCCTTCAATC TTCTGCTCAG	13080
TCATCCACTC TTGAACAATT GCTTTCGAAA TATGATACAG TGGCTGTGCG CTTTCAATCC	13140
CATAATGTTT GTAATAATTA TAATAGGGAA CTAGATTTTG TAAACCAAAC AAAAACGTTT	13200
TTGTTAAGAA AGTCAGTGCT GTTAAAAAAG AAAGAGAATT CGAAATGTCA TTTCTAAGA	13260
TATTCTTGAA CTTGGATAGT AGATGCTTTC CTCTTGATG CTGAAGAATC AGTTGAATAG	13320
TATGAGTCTT TTTTCTTGA TTCCATTTGT CCTTGGAAAA CGAAGAATTA GCAGAACAAT	13380
AAACCAAAAA GATATAATCC AGTTCTTCCT GAGTAAAGT CATGTTGGCA TGTGGCTCTA	13440
AGTAAGTTTG GCAATGTTCC ATCAAAATCG GATACATAAA GAGGTTTTTT AATTTTCAA	13500

486

ACTCTTTGGA CTCAGGGAAC TCAAGTGGA	ATTCCCGACG TTTCCAAGTG AGTGCCACTA	13560
GTATGCTAAA ATGAACATAC TCGTCAGGTG	TGATTTCTAA CAGTTCATGA CTGAGTTGAG	13620
AATTAGACTG CACAATCATA TGTGTGACCC	AATCCATACT TCCATCATTC AAATCATAAA	13680
TCTCAATACC AAAATGAAAC TGGAGGAGTG	CAATTAAGAA ACGAATGCGA TATTTCAGGAC	13740
CAACTACTTG ATTTTTCACA AGGTCCAAAC	CTACTGAACG TAGTAACAAG CCACACTTTT	13800
GTCGTACGCG GTAGCCTGTT GCGATGGAAA	TATACTCTTT TTGTGTAAAT TCGTTAAAGC	13860
TTTGATTACC TTGTAGTAGA AAGAAGCGGA	GTATTTTAA AATAGTTGAT TCGTTATAAA	13920
GCTGATGGAA GTAATAATTC GTTTGATGAG	AATGGTGTTT GATTAATTGA ACTTGTTCGG	13980
TATCTAAATT AAATGTCAAC TCTTCCTCGA	ATGTTTCTTG TAATTCCTGC AAAATGCTTA	14040
GGAGACTTTT AGATTGTAAT GAAGTTAAAG	TAGACAGTTC ATCTAGTTCA ATAGACCGAA	14100
TATCCAATAA TATATTIAAA ATGGTAATTT	TATCTGTAAT TCTTTTTCAT ATGTATTGT	14160
TTAGCATAGT TACCGAATCT TAGTTGCATA	TAGATAATTT TAATTATTAT AATACAAAAG	14220
AAACTAATTG TCTTGTCAAA AAGGTTGTGG	AATTTCCGAC TTTATTGATA AACAGCATG	14280
TAATAAAAGG CATTTTAAAG ATAGTAATGA	GTATTGGTGG AGTTTATAG CTTATTTT	14340
TTATTAGAAA ATATTTT	ATCAAATATT GTCGTTCTAT AAAAAATAT GTGATAAAAA	14400
TATCTATTGT GATGGAAGTT GTTTAATTT	ATACTAGGAT AGTTAATAGT AATACTATAC	14460
TATACTATAT TGTATACAAG TGTGTCATTG	CCAGCTTGAG AAGATAGCTA TAACGCACTT	14520
TTATACGCTT TTGCTACGTT TGTAGTGAA	CGGATTAAC CAGTGAGATA AATTTTATCA	14580
GAACATAAGT AATCCGTTTC TTCGTGTATA	CAGATTGAAA GTACCTATGA ATCATAGAA	14640
GATTAACTTG TTCTATGAAT AATGCTTAAC	AGGGAGACAC ACATGAAAAA AGTAAGAAAG	14700
ATATTTTCTAG	AGGCAGTTGC AGGACTGTGC TGTATATCTC AGTTGACAGC TTTTCTTCG	14760
ATAGTTGCTT TAGCAGAAAC GCCTGAAACC	AGTCCAGCGA TAGGAAAAGT AGTGATTAAG	14820
GAGACAGGCG AAGGAGGAGC GCTTCTAGGA	GATGCCGTCT TTGAGTTGAA AAACAATACG	14880
GATGGCACAA CTGTTTCGCA AAGGACAGAG	GCGCAAACAG GAGAAGCGAT ATTTTCAAA	14940
ATAAAACCTG GGACATACAC CTTGACAGAA	GCCCAACCTC CAGTTGGTTA TAAACCCTCT	15000
ACTAAACAAT GGACTGTTGA AGTTGAGAAG	AATGGTCGGA CGACTGTCCA AGGTGAACAG	15060
GTAGAAAAATC GAGAAGAGGC TCTATCTGAC	CAGTATCCAC AAACAGGGAC TTATCCAGAT	15120
GTTCAAACAC CTTATCAGAT TATTAAGGTA	GATGGTTCGG AAAAAACGG ACAGCACAAG	15180
GCGTTGAATC CGAATCCATA TGAACGTGTG	ATTCCAGAAG GTACACTTTC AAAGAGAATT	15240
TATCAAGTGA ATAATTGGA TGATAACCAA	TATGGAATCG AATTGACGGT TAGTGGGAAA	15300

487

ACAGTGTATG AACAAAAAGA TAAGTCTGTG CCGCTGGATG TCCTTATCTT GCTCGATAAC	15360
TCAAATAGTA TGAGTAACAT TCGAAACAAG AATGCTCGAC GTGCGGAAAG AGCTGGTGAG	15420
GCGACACGTT CTCTTATTGA TAAAATTACA TCTGATTCAG AAAATAGGGT AGCGCTTGTG	15480
ACTTATGCTT CCACTATCTT TGATGGGACC GAGTTTACAG TAGAAAAAGG GGTAGCAGAT	15540
AAAAACGGAA AGCGATTGAA TGATTCTCTT TTTTGAATT ATGATCAGAC GAGTTTACA	15600
ACCAATACCA AAGATTATAG TTATTTAAAG CTGACTAATG ATAAGAATGA CATTGTAGAA	15660
TTAAAAATA AGGTACCTAC CGAGGCAGAA GACCATGATG GAAATAGATT GATGTACCAA	15720
TTCGGTGCCA CTTTACTCA GAAAGCTTTG ATGAAGGCAG ATGAGATTTT GACACAACAA	15780
GCGAGACAAA ATAGTCAAAA AGTCATTTC CATATTACGG ATGGTGTCCC AACTATGTCG	15840
TATCCGATTA ATTTTAATCA TGCTACGTTT GCTCCATCAT ATCAAAATCA ACTAAATGCA	15900
TTTTTTAGTA AATCTCCTAA TAAAGATGGA ATACTATTAA GTGATTTTAT TACGCAAGCA	15960
ACTAGTGGAG AACATACAAT TGTACGCGGA GATGGGCAA GTTACCAGAT GTTTACAGAT	16020
AAGACAGTTT ATGAAAAAGG TGCTCCTGCA GCTTTCCTCAG TTAAACCTGA AAAATATTCT	16080
GAAATGAAGG CGGCTGGTTA TGCAGTTATA GCGCATCCAA TTAATGGTGG ATATATTGG	16140
CTTAATTGGA GAGAGAGTAT TCTGGCTTAT CCGTTTAATT CTAATACTGC TAAAAATTACC	16200
AATCATGGIG ACCCTACAAG ATGGTACTAT AACGGGAATA TTGCTCCTGA TGGGTATGAT	16260
GTCTTACGG TAGGTATTGG TATTAACGGA GATCCTGGTA CGGATGAAGC AACGGCTACT	16320
AGTTTTATGC AAAGTATTTC TAGTAAACCT GAAAACTATA CCAATGTTAC TGACACGACA	16380
AAAATATTGG AACAGTTGAA TCGTTATTTC CACACCATCG TAACTGAAAA GAAATCAATT	16440
GAGAATGGTA CGATTACAGA TCCGATGGGT GAGTTAATTG ATTTGCAATT GGCACAGAT	16500
GGAAGATTTG ATCCAGCAGA TTACACTTTA ACTGCAAACG ATGGTAGTCG CTGAGAGAA	16560
GGACAAGCTG TAGGTGGTCC ACAAATGAT GGTGGTTTGT TAAAAAATGC AAAAGTGCTC	16620
TATGATACGA CTGAGAAAAG GATTCTGTGA ACAGGTCTGT ACCTTGGAAC GGATGAAAAA	16680
GTTACGTTGA CCTACAATGT TCGTTTGAAT GATGAGTTTG TAAGCAATAA ATTTTATGAT	16740
ACCAATGGTC GAACAACCTT ACATCCTAAG GAAGTAGAAC AGAACACAGT GCGCGACTTC	16800
CCGATTCCTA AGATTTCGTGA TGTGCGGAAG TATCCAGAAA TCACAATTTC AAAAGAGAAA	16860
AAACTTGGTG ACATTGAGTT TATTAAGGTC AATAAAAAATG ATAAAAAACC ACTGAGAGGT	16920
GCGGTCTTTA GTCTTCAAAA ACAACATCCG GATTATCCAG ATATTTATGG AGCTATTGAT	16980
CAAAATGGCA CTTATCAAAA TGTGAGAACA GGTGAAGATG GTAAGTTGAC CTTTAAAAAT	17040

488

CTGTCAGATG GGAAATATCG ATTATTTGAA AATTCTGAAC CAGCTGGTTA TAAACCCGTT	17100
CAAAATAAGC CTATCGTTGC CTTCCAAATA GTAAATGGAG AAGTCAGAGA TGTGACTTCA	17160
ATCGTTCAC AAGATATACC AGCGGGTTAC GAGTTTACGA ATGATAAGCA CTATATTACC	17220
AATGAACCTA TTCCTCCAAA GAGAGAATAT CCTCGAACTG GTGGTATCGG AATGTTGCCA	17280
TTCTATCTGA TAGGTTGCAT GATGATGGGA GGAGTTCCTAT TATACACACG GAAACATCCG	17340
TAAAGTGTAG AAATGATAAT ATCTATGTTC TGAACGATAC TTTTAAGAAG TAGCACTCAA	17400
GAAGAGATTT AAGTTTACTT GGTGAAACCT GTTTTATTCG TAAGTAAACT ATCATTGAAA	17460
GGGAGATGT TTTGCAAAAC TTGCACAGAA AAAGGATTAT TATTGTCATG TGTAATTCAT	17520
TACATTGCTC ACAGTTGATT TTAAGAGATA TGAATAAGGA GAAATCATGA AATCAATCAA	17580
CAAAATTTTIA ACAATGCTTG CTGCCTTATT ACTGACAGCG AGTAGCCTGT TTTCAGCTGC	17640
AACAGTTTTT GCGGCTGGGA CGACAACAAC ATCTGTTACC GTTCATAAAC TATTGGCAAC	17700
AGATGGGGAT ATGGATAAAA TTGCAATGA GTTAGAAACA GGTAACTATG CTGGTAATAA	17760
AGTGGGTGTT CTACCTGCAA ATGCAAAAGA AATTGCCGGT GTTATGTTTCG TTTGGACAAA	17820
TACTAATAAT GAAATTATTG ATGAAAATGG CCAAACCTA GGAGTGAATA TTGATCCACA	17880
AACATTTAAA CTCTCAGGGG CAATGCCGGC AACTGCAATG AAAAAATTAA CAGAAGCTGA	17940
AGGAGCTAAA TTAAACACGG CAAATTTACC AGCTGCTAAG TATAAAATTT ATGAAATTC	18000
CAGTTTATCA ACTTATGTCG GTGAAGATGG AGCAACCTTA ACAGGTTCTA AAGCAGTTCC	18060
AATTGAAATT GAATTACCAT TGAACGATGT TGTGGATGCG CATGTGTATC CAAAAATAC	18120
AGAAGCAAA CCAAAAATTG ATAAAGATTT CAAAGGTAAA GCAAAATCCAG ATACACCACG	18180
TGTAGATAAA GATACACCTG TGAACCACCA AGTTGGAGAT GTTGTAGAGT ACGAAATTGT	18240
TACAAAAATT CCAGCACTTG CTAATTATGC AACAGCAAAC TGGAGCGATA GAATGACTGA	18300
AGGTTTGGCA TTCAACAAAG GTACAGTGAA AGTAACTGTT GATGATGTTG CACTTGAAGC	18360
AGGTGATTAT GCTCTAACAG AAGTAGCAAC TGGTTTTGAT TTGAAATTAA CAGATGCTGG	18420
TTTAGCTAAA GTGAATGACC AAAACGCTGA AAAAATGTTG AAAATCACTT ATTCGGCAAC	18480
ATTGAATGAC AAAGCAATTG TAGAAGTACC AGAATCTAAT GATGTAACAT TTAATATGG	18540
TAATAATCCA GATCACGGGA ATACTCCAAA GCCGAATAAG CCAAAATGAAA ACGGCGATT	18600
GACATTGACC AAGACATGGG TTGATGCTAC AGGTGCACCA ATTCGGGCTG GAGCTGAAGC	18660
AACGTTTCGAT TTGGTTAATG CTCAGACTGG TAAAGTTGTA CAACTGTAA CTTTGACAAC	18720
AGACAAAAAT ACAGTTACTG TTAACGGATT GGATAAAAAAT ACAGAATATA AATTCGTTGA	18780
ACGTAGTATA AAAGGTATT CAGCAGATTA TCAAGAAATC ACTACAGCTG GAGAAATTGC	18840

TGTCAAGAAC	TGGAAAGACG	AAAATCCAAA	ACCACTTGAT	CCAACAGAGC	CAAAAGTTGT	18900
TACATATGGT	AAAAAGTTTG	TCAAAGTTAA	TGATAAAGAT	AATCGTTTAG	CTGGGGCAGA	18960
ATTTGTAATT	GCAAAATGCTG	ATAATGCTGG	TCAATATTTA	GCACGTAAAG	CAGATAAAGT	19020
GAGTCAAGAA	GAGAAGCAGT	TGGTTGTTAC	AACAAAGGAT	GCTTTAGATA	GAGCAGTTGC	19080
TGCTTATAAC	GCTCTTACTG	CACAACAACA	AACTCAGCAA	GAAAAAGAGA	AAGTTGACAA	19140
AGCTCAAGCT	GCTTATAATG	CTGCTGTGAT	TGCTGCCAAC	AATGCATTTG	AATGGGTGGC	19200
AGATAAGGAC	AATGAAAATG	TTGTGAAATT	AGTTTCTGAT	GCACAAGGTC	GCTTTGAAAT	19260
TACAGGCCCT	CTTGCAGGTA	CATATTACTT	AGAAGAAACA	AAACAGCCTG	CTGGTTATGC	19320
ATTACTAACT	AGCCGTCAGA	AATTTGAAGT	CACTGCAACT	TCTTATTTCAG	CGACTGGACA	19380
AGGCATTGAG	TATACTGCTG	GTTCAGGTAA	AGATGACGCT	ACAAAAGTAG	TCAACAAAAA	19440
AATCACTATC	CCACAAACGG	GTGGTATTGG	TACAATTATC	TTTGCTGTAG	CGGGGGCTGC	19500
GATTATGGGT	ATTGCAGTGT	ACGCATATGT	TAAAAACAAC	AAAGATGAGG	ATCAACTTGC	19560
TTAAGTAAGA	GAGAAAGGAG	CCATTGATGA	CAATGCAGAA	AATGCAGAAA	ATGATTAGTC	19620
GTATCTTCTT	TGTTATGGCT	CTGTGTTTTT	CTCTTGATG	GGGTGCACAT	GCAGTCCAAG	19680
CGCAAGAAGA	TCACACGTTG	GTCTTGCAAT	TGGAGAACTA	TCAGGAGGTG	GTTAGTCAAT	19740
TGCCATCTCG	TGATGGTCAT	CGGTTGCAAG	TATGGAAGTT	GGATGATTCG	TATTCCTATG	19800
ATGATCGGGT	GCAAAATGTA	AGAGACTTGC	ATTCGTGGGA	TGAGAATAAA	CTTCTTCTTT	19860
TCAAAAAGAC	TTCGTTTGAG	ATGACCTTCC	TTGAGAATCA	GATTGAAGTA	TCTCATATTC	19920
CAAAATGGTCT	TTACTATGTT	CGCTCTATTA	TCCAGACGGA	TGCGGTTTCT	TATCCAGCTG	19980
AATTTCCTTT	TGAAATGACA	GATCAAACGG	TAGAGCCTTT	GGTCATTGTA	GCGAAAAAAA	20040
CAGATACAAT	GACAACAAAG	GTGAAGCTGA	TAAAGGTGGA	TCAAGACCAC	AATCGCTTGG	20100
AGGGTGTCGG	CTTTAAATTG	GTATCAGTAG	CAAGAGATGT	TTCTGAAAAA	GAGGTCCCT	20160
TGATTGGAGA	ATACCGTTAC	AGTTCTTCTG	GTCAAGTAGG	GAGAACTCTC	TATACTGATA	20220
AAAATGGAGA	GATTTTGTG	ACAAATCTTC	CTCTTGGGAA	CTATCGTTTC	AAGGAGGTGG	20280
AGCCACTGGC	AGGCTATGCT	GTACGACGC	TGGATACGGA	TGTCCAGCTG	GTAGATCATC	20340
AGCTGGTGAC	GATTACGGTT	GTCAATCAGA	AATTACCACG	TGGCAATGTT	GACTTTATGA	20400
AGGTGGATGG	TCCGACCAAT	ACCTCTCTTC	AAGGGGCAAT	GTTCAAAGTC	ATGAAAGAAG	20460
AAAGCGGACA	CTATACTCCT	GTCTTCAAA	ATGGTAAGGA	AGTAGTTGTA	ACATCAGGGA	20520
AAGATGGTCG	TTTCCGAGTG	GAAGGTCTAG	ACTATGGGAC	ATACTATTTA	TGGGAGCTCC	20580

490

AAGCTCCAAC TGGTTATGTT CAATTAACAT CGCCTGTTTC CTTTACAATC GGGAAAGATA	20640
CTCGTAAGGA ACTGGTAACA GTGGTTAAAA ATAACAAGCG ACCACGGATT GATGTGCCAG	20700
ATACAGGGGA AGAAACCCCTT GTATATCTTG ATGCTTGTTG CCATTTTGTT GTTTGGTAGT	20760
GGTTATTGTC TTACGAAAAA ACCAAATAAC TGATATTCAA TGTACATCAT TATGAATAGG	20820
ATAGCAGGCT GAAGGGAAGA CCAGAGTACT CTGAGCTGAT GTTAATCAGG AATCATGGTG	20880
ATGTGGCATG AATCATCAAT AACGGATATG AGGCTGGGCA GATTGTGCCA GCCTCATTGT	20940
GGGTTATTGT TTGTAAAACG ATAGGACTGG TCTGGTAATC ATTTTA	20986

(2) INFORMATION FOR SEQ ID NO: 55:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 21040 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: double
 - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 55:

CCCAGCAAAA AGCCATCCGA AGATGACTTT TTTGCTATTT AATTTCTGTA TAAGTTACTT	60
CCAAGCCACG CTTAACAGCT GGACGATTGG CAATTTTTC TGCCCATTTT ACTAGATTTT	120
GATAACTTGA GGCATCCAAG AATTTTGAG AACCTTGGTA AAGATTTCCT TGAACAACT	180
GTCCATACCA AGACCAGATA GCAATATCTG CAATCGTATA GTCATTGCCT GCAATATAAG	240
GTTTCTGAGC CAATTCCTTA TCCAATAAAT CCAACTGGCG TTTCACTTCC ATCGTAAAC	300
GGTTAATAGG ATATTCCAAT TTTTCAGGAG CATAATTGAA GAAATGTCCA AATCCCCCAC	360
CTAGAAAAGG TGCTGCACCT GCTTGCCAGA ATAGCCAATT CAAAACCTCT ACCTTTTCCA	420
CAGGATTACT TGGTAAAAAG GCTCCAAATT TCTCAGCAAG GTAAAGAAGA ATATGAGCAG	480
ACTCAAAGAC TCTTACGTTT TCAGTACCTG ACTGGTCCAA TAAGGCTGGA ATCTTGAAT	540
TTGGATTGAG CTTCAAAAAG TCTGATCCGA ATTGATCCCC ATCCATGATA GCAATCTTAT	600
ACAAGTCGTA AGCCGCTTCC TTAACCACAG CTTCTAGTAA TTCTTCCAAT AAGATAGTAA	660
CCTTCACACC ATTTGGTGTG CCCAGTGAAT AAAGCTGAAA AGCTTGTTCT CCTTTTGGCA	720
AGTTTGTGTC GAAACGGGCA CCTGCTGTTG GTCTGTTTAG CCCCCTAAAA GCTCCTTGAT	780
TACTAGCTTC ATCCTGCCAT ACGGTCGGTA ATTGATATGC TGACATCCGA AACCTCCCTT	840
AAATCGCATT CTTGTCAAAA CCGAGTTTGC GTTGAATAAA CTTAACGATT TCGACGATGA	900
TAATCATTGA GAAGCTTCCA GCCATAACAA TTCCCCATTG TGACAAGTCT AGTTTGGTTA	960
CGTGGAAGAT TCCTTCAAGC GGTCTACAA CGATTGTTGC CATGAGAAGC ATAAAGGATA	1020

491

CCAAGATGGA CCAGTTAAAG GTCTTAGACT TGAATGGGCC AACTGTCAAG ATGGATTGGT	1080
AGACAGACTT GACATTGTAG GCATGGAAGA GCTGAATCAA ACCAAGGGTT GCAAAGGCCA	1140
TCGTTAGGGC ATCTGCATGA ATAGCATGAT TGTACCCAC ATGAACTGGG TAAGCAATCG	1200
CAAGGCCATA AACACTCATA ACAAGAGCTG CTTGGAGTAC ACCTTGATAA ATGATAGAAC	1260
TCAAAACACC ACCTGAGAAG AAGCTTGCCT TGCCTCCACG TGGTTTATGA TTCATGACAC	1320
CAGGTTCCGC AGGTTCAACA CCAAGAGCGA TAGCTGGGAA GGTATCCGTT ACCAAGTTGA	1380
TCCACAAAAG ATGAACCGGC TGTAAGACAT CCCAACCAAA CAAGGTTGAT AGGAAGATGG	1440
TTAATACTTC AGCAGTATTA GCAGAAAGTA GGTACTGAAT AGTCTTTTGA ATGTTTGAGA	1500
AGACCTTACG TCCTTCTTCC ACTGCGACGA TAATAGTCGC AAAGTTATCA TCTGCAAGAA	1560
TCATATCAGA AGCCCCCTTA GAAACCTCTG TACCAGTGAT TCCCATACCG ATACCGATAT	1620
CGGCTGTTTT CAGAGCTGGC GCGTCATTGA CACCGTCACC TGTCATGGCA ACGACTTTAC	1680
CTTGTTTTTG CCAAGCCTTG ACGATACGAA CCTTGTGTTC TGGAGACACA CGGGCATAAA	1740
CAGAGTATTG ACCAACGACT TTTTCAAATT CTTCATCTGA CAGTTCATTG AGTTCAGCAC	1800
CAGTTAAAC GTGACCTTCT GTATCGTTTG CGTCAATGAT TCCCAAACGT TTGGCAATGG	1860
CTTCCGCTGT GTCTTGGTGG TCACCTGTAA TCATAATTGG ACGGATTCCC GCTTCCTTAG	1920
CCACACGAAC AGCCTCAGCG GCTTCAGGAC GTTCAGGGTC AATCATCCCA ATCAAACCAG	1980
TAAAAATTAA ATCATTTTCA AGCTCTTCAG AAGTGAGATT TTCTGGAATA CTATCGATAA	2040
TCTTATAAGC ACCTGCAAGG ACACGCAAGG CTTGATGAGC CATTTCAAGAA TTGTTTGATAC	2100
GAATGAGATT TGTAACCTTC TCATCAATCG GAGCAATATC CCCAGCCTTA TCACGAAGAA	2160
GACAACGTTT TAAGAGTTGG TCTGGCGCAC CCTTGACTGC TACAAGGAAA CGACCATCTG	2220
GCAATGGGTG AACTGTTGAC ATGAGCTTAC GGTGAGAGTC AAATGGCAAT TCAGCTACAC	2280
GAGGATATTT CTCTAAGAAA CCTTTGACAT CATAGCCCTT GTCCAAGGCA TATTGGATAA	2340
AGGCTGTTTC GGTGCGGTCA CCAATCAAGT TACCTTCCAC ATCGATTTTC GTATCATTTG	2400
CCAAGACAAC TGAACGAAGT AGTGGCATTT CAAGACCTAG TTCAATATCA TCAGCTGAGT	2460
CATGTAGAAC CGCATCGTAG AAGACTTTTT CGACTGTCAT CTGTTCATA GTCAGCGTAC	2520
CAGTCTTATC AGAAGCGATG ATTTCAAGTTG AACCAAGTGT TTCAACTGCT GGCAACTTAC	2580
GAACGATGGA ATGTCGTTTG GCCAAAACCT GAGTACCAAG AGAAAGAACG ATGGTAACGA	2640
TAGCAGGAAG TCCTTCTGGA ATGGCTGCAA CGGCAAGGGC AACAGAAGTC AACAACTCAC	2700
CAAGTGGATT TTTCCTTGA ATGAAGACAC CCACTACAAA AGTAACAAGG GCAATGACCA	2760

492						
AGATAGCATA	GGTCAAGACC	TTAGAAAGGT	TGTTCAAATT	TTGTTTGAGT	GGTGTATCAG	2820
TCTCATCCGC	ATCTTGAAGC	ATACCAGCAA	TATGACCAAC	TTCAGTGTAC	ATACCTGTAT	2880
TGACAACAAC	ACCCATCCCA	CGACCATAGG	TTACGTTTGA	GTTTTGGAAG	GCCATGTTGA	2940
CACGGTCACC	AATACCAGCA	TCTGTCGCAA	GCTCGACTGA	CAAGTCTTTT	TCGACTGGTA	3000
CAGATTCACC	TGTCAGGCT	GCTTCTTCAA	TTTTAAGAGA	GTTGGCTTCT	ATCAAACGTA	3060
GGTCCGCTGG	TACCACGTCA	CCTGCTTCAA	GGGCAACGAT	ATCGCCTGGT	ACCAATTCCT	3120
TAGAGTCAAT	CTCTGCCATG	TGTCCATCAC	GAAGAACGCG	GGCAACTGGA	CTAGACATGG	3180
ATTTGAGGGC	TTCAATAGCT	TCTTCAGCTT	TTCTTCTTG	GTA AACACCA	AAGGCAGCGT	3240
TGATGATAAC	CACAGCTAGG	ATGATAATGG	CATCTGCGAT	ATCTTCCCCA	CCAGAAGTCA	3300
CGACTGACAA	GATTGctGCC	GCAACTAGGA	TGATAATCAT	CAAATCCTTA	AATTGCTCGA	3360
TGAATTTGAC	CAAGATTGAT	CGTTTCTCGC	CTTCTTCGAG	TTCATTGTGC	CCAAATTCGG	3420
CAAGGCGCTT	TTCCGCCTCA	CTTGATGACA	AACCTTGCTC	GGTCGCATCC	ACAGCCTGCA	3480
AGACCTCTTC	AGGGCTCTGA	GTATAAAACG	CTTGGCGTTT	TTGTTCTTTT	GACATGTGTC	3540
TCCTCCTTGA	CATTGTGTGC	AAAACAGACT	CTCTTCTGT	CATAGCTTTT	CACGACAAAC	3600
AAAAAGAAAC	CTGTTAATCA	TAACAAGTCT	CGCTGTTTAA	GATAGGGCCG	GAAAGCATAC	3660
TTTTTCAGCAT	AAAATTCGGA	ATGACGACAC	TATCACAGGT	TTCTGCCAGC	TACTCCCTTG	3720
AGTAGTACCA	TTATACCAAA	TTTTGGGSAG	TTTTCAAAGA	GTAAAACTG	CCTTATTTGA	3780
ATTTTTCCTT	GAAAACCAGT	ATAATGGTAG	AATGCTATGT	GACTAGAAAG	GAAGTTGAAT	3840
GAAGCAATCT	ATCTCAAATC	TCAAGTTAGC	TGAGCGTGGA	GCCATTATCA	GTATTTTCGAC	3900
CTATTTGATC	TTGTCTGCAG	CCAAATTAGC	AGCTGGTCAT	CTCCTTCATT	CATCCAGTTT	3960
GGTGGCCGAT	GGTTTTAATA	ACGTATCGGA	CATCATTGGA	AATGTGGCCC	TCTTAATCGG	4020
GATTCGGATG	GCGCGCCACC	TGCAGACCGT	GACCACCGTT	TTGGTCATTG	GAAGATTGAA	4080
GATTTGGCAA	GCTTGATCAC	TTCTATCATC	ATGTTCTATG	TCGGTTTCGA	TGTTCTAAGA	4140
GATACCATTTC	AAAAGATTCT	CAGTCGGGAA	GAAACGGTCA	TTGATCCTCT	TGGTGCAACT	4200
CTAGGAATCA	TTTCTGCAGC	GATTATGTTT	GTGGTCTATC	TCTACAATAC	TCGCCTCAGT	4260
AAGAAATCCA	ACTCCAATGC	GCTGAAGGCA	GCTGCTAAGG	ACRAATCTTC	TGACGCTGTT	4320
ACCTCACTTG	GAACCGCCAT	TGCCATCCTA	GCTAGTAGTT	TCAATTATCC	GATTGTGGAT	4380
AAACTGGTTG	CTATCATCAT	CACTTTCTTT	ATCTTGAAGA	CTGCCTATGA	TATCTTCATC	4440
GAGTCTTCCT	TTAGTCTTTC	AGATGGCTTT	GACGACCGCC	TGCTCGAGGA	CTACCAAAAG	4500
GCTATCATGG	AAATTCCCAA	AATCAGCAAG	GTCAAATCGC	AAAGAGGTGC	CACCTACGGT	4560

AGCAACATCT ACCTGGATAT TACACTAGAG ATGAATCCTG ACTTGCTCTGT TTTTGAAAGC	4620
CATGAAATCG CGGATCAGGT CGAGTCTATG CTGGAGGAGC GTTTTGCGCT CTTTGATACC	4680
GATGTCCATA TCGAACCAGC ACCTATCCCT GAGGATGAAA TTTTAGACAA TGTCTATAAA	4740
AAATTGCTTA TCGTGGAACA ATTGATTGAC CAAGGAAACC AACTAGAAGA ACTCTTGACT	4800
GATGATTTTG TCTATATTCG CCAAGATGGA GAGCAGATGG ATAAAGAGGC TTATAAGACC	4860
AAAAAAGAGT TAAATTCTGC TATCAAGGAC ATTCAAATTA CTCCATCAG TCAAAAAACC	4920
AAACTCATCT GCTATGAGTT AGATGGTATC ATCCATACCA GTATCTGGCG TCGCCACGAA	4980
ACCTGGCAAA ATATCTTTCA TCAAGAAACC AAAAAAGAAT AGAGAAATCC TTTCATGAGA	5040
CGGGATTTT CTATTCTTTT ATACTCAATA AAAATCAAAG TGCAAATTAG GAAGCCGGTC	5100
ACAGGCTGTA CTTGAGTCGG CAATGTGAAG CCGACATAGT TTGCACTTTG ATTTTCGAAT	5160
AGTCTTAACT ATCAAATTCA CTGAGATACT CATAGCGTTC GTATTTTTCAG AGGAGTGCTT	5220
CATTTTCTC ATCCAATTCT TTTTGGAGAG TAGCCAGCTT ACCAAAGTCA GAGCCGTTAG	5280
CCTGCATTTC CTCTTCAATA GCAGCGATAC GTTTTTCCTA GGTTCCTAATA TCACCTTCAA	5340
TACTTGCCCA CTCCTGCTTT TCTTGGTAGG TCAATGCGTTT CTTGTCTTCT CGAACCTTGA	5400
CCACTTTTTC CTTTTCGGCC TTTTGCACCT GATTGGCCAT ATCTGTTTCA AAAGCTTTTT	5460
CATCAAGATA GTCGGTGTA TGACCAAGA AAGGACGAAT CTGCCATCC TCAAAAGCGA	5520
GAATCTTGGT CGCTACCTTA TCCAAGAAAT AGCGGTCGTG ACTGACTGTT AAAACGGGAC	5580
CTGCAAAACC TTGCAAGAAA TTCTCTAAGA CTGTCAAAGT TGCAATATCT AGGTCATTGG	5640
TTGGCTCGTC TAAAAGAAGA ACATTTGGTT TTTCCAAAAG CAGTTTGAGG AGATAAAGAC	5700
GTTTTTCTC ACCCCCTGAC AATTTCTCAA TCAAACCTCC ATGCGTCGAA CGTGGGAAGA	5760
GGAATTGCTC CAGCAACTCA GCGATGGAAG TCGTAGAACC ACCACTGGTC TTGACCTCCT	5820
CTGCCACTTC CTGCAGGTAA TTGATCACAC GCTTGCTTTC ATCCAAACCC TCAATTGTTT	5880
GAGAGAAATA GCGATGCGA ACAGTTTCCC CAATCACAAC TTGTCTGCT GTCGGCTCAA	5940
GACTTCCTGC AATCAGGTTA AGTAGGGTTG ATTTTCCAAC ACCATTGTCC CCAACAATTC	6000
CAATACGGTC TTTAGCCTGA ACTAAGAGAT TAAAAATTTG CAAAATGGGC TTATTTTCAT	6060
AGGCAAAGGA AACATCCTGA AACTCGATGA CTTTCTTCCC AATCCGACTG GTTTCAAAGT	6120
TCATAGTCAA GTCTGTCTCA GCACTACTGC CTGAAACTTC CTTTTCAGA TCATGGAAAC	6180
GATTGATACG AGCTTGTTC TTGGTCGCAC GCGCTGCGG TTGTCTGCGC ATCCAGGCCA	6240
ATTCTTGTTT GTAGAGTTGT TCTTTTGT GAAGAAGAGC CGCGTCGCGC TCATCCTGTT	6300

494						
CCGCCTTTAG	GCGAACATAG	TCCTGGTAAT	TTCCCTGGTA	CTCGGTCAAG	CCTGCACGAT	6360
CCAACTCGAA	AATCCGTGTT	GACAAAGCGT	CTAAGAAATA	ACGATCGTGA	GTGATAAAAA	6420
GGACGGTCTT	CTTAGAATTT	TTCAAAAAGA	GGGTCAGCCA	CTCAATAATC	GCAATATCCA	6480
GATGGTTGGT	CGGCTCATCC	AAAAGCAAGA	GGTCGTGGTT	GCCAAGTAAG	ACTTGTGCCA	6540
ACTGTACCCG	TCTTCTCAGA	CCACCTGACA	ATTCCCCAAC	AGGAGTAGAT	AAGTCTTGAA	6600
TGCCCAATTT	GCTAAGAACG	GTCTTGACCT	GACTTTCGAT	TTCCCAAGCT	TGGAGAGAGT	6660
CCATCTCTGC	CATGACACGT	TCCAAACGCG	CCTGCTTGTC	CTCACTATAG	TCGAGCATAA	6720
TCAATTCATA	CTCACGAATG	AGCTGGATTT	CCTTGAGTTC	ACTAGATAGA	ACCGTATCCA	6780
AAACTGTCTT	TCTATCATCA	AAATCAGGAT	CCTGAGTCAA	GTAACCAATC	TGGTAATCAT	6840
TTTTAGCTGA	AAAAGGACTG	ACATCCCCAT	CAAATCCAGA	AACACCAGAA	AGGACGTCCA	6900
AAAGGGTGGT	CTTGCCAGTC	CCATTGACAC	CGATTAAACC	AATTCTGTCT	AAGTCATGGA	6960
TAATAAAGGA	AATATCCCTA	AAAACGGTCT	TGTACCAAC	GGATTACTT	AGTTTTTCAA	7020
CGATAAAATC	ACTCATTTTT	TCTCCCTCAG	GTAAGCATGG	ATGGCTTCAC	GATTATTCTC	7080
CAATTCTCCA	TCGACAATGG	CAAACCAAT	CTCTGTTAAA	ATCTCTCCCA	AGTCTGGGCC	7140
TGGCTGATAG	CCATATTCCCT	TGATCAAAAT	ACCGCCATTA	ATCTGAATCT	CTTCTTGTC	7200
ATGGATAGTC	AAGCTTTGGT	ATTTTCTGT	GATGGCTTGT	GGGTGACTT	CTTTTCCTTG	7260
AGCTTGACGA	AGATTTTCAG	CCTGTAAAAG	CAAATCTATG	TCAAAGCGAT	AACAATCTCG	7320
CTTGCTCAAT	TCTCCATTTT	CACGCAGAGC	CAAAATAATC	AGCAAATCCT	GAAGTTGCTT	7380
GGCAAACCTG	CGTGAGGCTT	TCCAAGATTT	CAAAAATGAC	TGCGCATTTT	CAATCTCCAA	7440
AGCCCATAGT	AAAGCCGCCC	AGGCTTGTTT	AGAGGATTCA	AAAGTAAAT	CAGTCTCCAA	7500
ATCAAACAGT	CTGTTGAGCT	TGTCCTGGCT	AGATGCCATA	TCAGGGAGAT	AGTCATAAGC	7560
TTGACTCTCA	ATCATGGAAG	CCAAGCCCTT	TCTCCAAAAT	GGAGCCAGCA	AGAGTTTATC	7620
AAACTCGACG	AAGGTACGCT	CTACAGAAAT	TTTCTCCAAA	AGCGGCGTCA	AGGTCTTCAT	7680
AGCTTTAAAT	GT'TTCTGGCT	CAAGTGCAAA	ACCAAGACTA	GCCTGAAAAC	GGAAACCACG	7740
CATAATCCGT	AAAGCATCTT	CGTTGAAACG	CTCACTAGCC	ACTCCAACCT	CTCGCAAGAC	7800
TTGCTTTTCC	AAATCTTCTA	AACCATGGAA	CAAGTCAACG	ATTTCTCCTG	TCTCATCCAA	7860
GGCAAAGGCG	TTGACTGTGA	AATCACGGCG	TTTGAGGTCT	TCTTCTAGCG	ATCGTACAAA	7920
GGAAACCSCA	CTGGGTCTGC	GATAGTCCAC	ATAGACATCC	TCTGTCCGAA	AGGTGTGTAC	7980
CTCATACTCC	TCATCCCCAT	CTAAGACCAA	GACGGTTCCA	TGCTCGATTC	CGATATCGGC	8040
TGTTCCGCGA	AAAATCTGCT	TGGTCTCTTC	TGGATAAGAA	GACGTCGCAA	TATCCACATC	8100

495

GTGGATAGGG CTATGGAGAA GGGCATCTCG AACAGAGCCC CCAACAAAAT AAGCCTCAAA	8160
GCCTGCTTCT TTAATTTTTT CTAATACTGG TAAAGCCTTC TGAAATTCAG AAGGCATTTG	8220
CGTTAATCTC ATAATAAGTG TTCTAATCCA TAGACAAGCT CATGACGCTT GACAACTTCT	8280
TTAATTCCCA AATTGACTCC TGTCAATGAAG GAGATGCGAT CATAGGAGTC ATGACGGAGG	8340
GTCAACCCCT CTCCCTGATT GCCAAAGATG ACTTCCTGAT GAGCTACCAA GCCTGGCAAA	8400
CGAACTGAGT GGATGCGCAT ACCATCAAAG TCAGCACCAC GAGCACCAGC AATCAGCTCT	8460
TCCTCATCTG CTGCACCTTG CTGAATTGAC TCTCGAACCT CTGCCATCAA CTCAGCTGTT	8520
TTAATGGCTG TTCCACTCGG AGCATCCTTT TTCTTGTCAT GATGGAGCTC AATAATCTCC	8580
ACATTTGGGA AATATTGGC AGCCTGCGTC GCAAATTGCA TGAGTAAGAC AGCACCCAAG	8640
GCAAAGTTAG GGGCAATCAG GCCACCCAAG TCTTGGGCAC GAGAAAATTC TTTAGCTCT	8700
GCAATTTCTT CACTCGTGAA ACCAGTCGTT CCAACTACTG GAGCAAAGCC ATTTTCAAGA	8760
GCAAAACGTG TATTTTCGTA GGCAACAGCT GGAGTAGTAA AATCTACCCA GACATCCGCT	8820
TCAAAACCAG CTAAATCAGC CTTATCCTTG AAAACAGGAA TACCCTGCCA TTCTGACTCA	8880
GACTCAAAAG GATCCAAAAC TGCCACCAAG TCCAAGTCTG GATCAGTCAA TACCATCTGA	8940
CAAGCAGCCT GGCCCATCTT TCCCTTAAAA CCGGCAATAA TTACTCGAAT ACTCATCTCT	9000
ACTCCTGTCT AAGATACAAA GTCCGTAAGA ACACAAAGTG AAAATAGGAA TTCCAATCAA	9060
GAAGTGCTA CTTCTTGGAA GAACTATCTT TTTACACAG GGTTCAGGC GTGTTCAATT	9120
ATCAAGATAC AAAGGACCTT AGCTGCCTCT GAAAAATAGG GAATGGCACT GACTTTCCAC	9180
GAAAGGCAAG ACAGGCATCT TTTTCAAGA GGCAGGTAGT CCGTGTTCAA TTTCTAAGAT	9240
ACAAGGCATC TTAAGTAGCC TAGAAGCGCC AACTAAATCA CTGGAATATA ACCCAGAGCA	9300
ATACTTCCTG CTCCTAGGTG CGTCCAATG AACTACCAA ATGTAGCAAG TGAAACATCC	9360
GAACCAAGC CAAAATCAAG CAAGTGCTGA CGCAATTCTT CAGCCTTTTC AGGAGCATTC	9420
CCATGAATGA CAATGACCCG GTATTGACCT GAAGCCGTTG TTTCTTGAT AATTTCAATT	9480
AAGCGCTTG TGGCCTTCTT TTCAGTACGA ACTTTTCGT AACTTCAAT CACACCTTGA	9540
TCGTAAAAAT AAAGGATTGG CTTAATGCTA AGCAAATTGC CAAAAATGGC AGCCCCATTT	9600
GAAAGGCGTC CACCTTTTAC CAAATGATCC AAGTCATCTA CCATGATAAA GGCTGACGTA	9660
CGGCTGATTT GAATGGCTAG CTTATCCTGA ATGCTGGCAA AATCATCGCC CTGATCACGC	9720
CAATTAAAGA CGCTTTCAAC CATGATGCCT AGGGGAGCAC TTGTAATCAA AGTGTCTGGG	9780
AAAGCAATGG TTAAGCCCTC ATAGTCATCG ACCATATACT GGATATTTTG GTAAAAACCT	9840

496

GAAATTCCAG AAGATAGGAA AAGCCCCAAG GCATGTGTAT AGCCTTGTTT TTTGAGCGAA	9900
GTTAAGATCT CATCTAAGTT GGCAATACCT GGTGACTGG TCTTAGGCAA TTCAGAAGCC	9960
TGAGCCATTT TTTGGTAAAA TTCCTCAGCA GACAGATTGA TGCCTTCGAC ATATTCCTCA	10020
CCATCAATAT TGACAGGAAT ATCCAAGACA AACAAGTCTT CTCTTTGCAA GATCTCTGCA	10080
CTGAGATAAG CAGAGGAATC TGTGAAAACA GCTAATTTC TATTAGAACT CCAAATTAAT	10140
TCCTGGTAAG TCTAATGCAA TTTCAGTCAC TTCGTAAGTC AAACGATTGA GCATGTTCAA	10200
ACATGGACGA GCCAAGGTTT CCACCTCTTC TTGGTTCAAT TCACTTGGTT CATTGACAAT	10260
ACGGCCATCG ATATGGTTTA CTGTGAGAT TGTTCACCTA ATGACAAACT TATCAAATAC	10320
AATCATAAAG CTCAGATGA CAATCAAGGA AGTCACTTGA TTTTCTTGGT CATGTTGGAG	10380
CAATTGAAA TTCAATCCA CCTTGGTTTC AGGAGCTCCA TTTTCATTTT CCCATTCAAA	10440
ATTACGCGCA TCAAAATGAT ACTGACTAAC AAATTCCTGT TCACGTTTAA GATTCATGTC	10500
TTTCTCCATC GGCTACAATA TTATAAGCTA TTGTACCATA ATTTTTTATT TTCATCTAGT	10560
TTTCTAGGAT TTAGTCAATC CCAATTTTCA CACGAACCTAC ATCTGTGATG GTATCAACAT	10620
AGTAGTTTAC TTCTTCTGTT GTAGGCGCTT CTGCCATAAC ACGCAAGAGG GGTCTGTGTC	10680
CACTTGGACG AACAAGGATA CGGCCGTTCC CCGCCATTTT TTCTTCCATC TTCTCGATGA	10740
TGGCCTTGAT AGCTGGCACT TCCATGGCCT TTTCCTTCAT GACGTTTTC ACTCGGATAT	10800
TAACTAATTT TTGTGGATAA ATCGTTACTT CTGCCGCCAA CTCTGATAAG CTCTACCAG	10860
TTTCCTTCAT GATTTTAGTC AATTGAACTG CTGATAATTG ACCATCACCT GTGGTATTGT	10920
AATCCATCAA GATAACGTA CCAGACTGTT CACCACCAAG GTTGTAGCCT GATTTTCTCA	10980
TTTCTTCAAC AACGTAGCGG TCACCAACTG CAGTAACTGC CTGTGTAATA CCTTCGCGAT	11040
TCAAGGCCCT GTGGAACCA AGGTTAGACA TAACAGTTGT CACAATTGTA TTTTGAGCCA	11100
ATTGTCCTTT TTCAGAAAGG TATTTTCCGA TGATGTACAT AATCTGTCA CCATCAACGA	11160
TGTCACCATC CTCATCAACA GCAATCAAGC GGTCACTGTC TCCATCAAAG GCCAAACCA	11220
TAGCTGACCC ACTTTCTTTG ACCACTTCTT GAAGGGCTTC TGGATGTGTT GAACCAACAT	11280
TAAGGTTGAT GTTAAGACCG TCTGGTGTTC CCCCATAAC CGTCAATTGG GCACCAAGGT	11340
CTGCAAGAT TTGACGGGCA CTGGTAGAAG CTGCTCCATT AGCTGTATCC AAGGCAACCT	11400
TCATTCCATC AAGAGGAGTT CCAGTTGAAA CAAGGTATCC TTCATACTTA CGCAGCtTC	11460
TGGATAATCT ACCAAAATTC CTAAGCCTTC TGCACCTGGA CGAGGAAGAG TGTCTTCCTC	11520
AGCATCTAGC AAGGCTTCAA TTTCTGCTTC TTTTTCATCA TCTAGTTTGA AGCCATCACC	11580
GCCAAAGAAC TTGATTCGGT TATCAAGGCG TGGGTGTGG CTAGCAGAAA TCATGACACC	11640

497

GGCACTTGCT CCTTCAGTTT CAACCAAGTA AGCTACTGCT GGTGTTGCAA GGACACCAAG	11700
TTTGATACG TGAATCCCTA CTGAAAgGAG ACCTGCCACC AAGGCCGATT CCAACATTTT	11760
CCCTGAAATA CGTGTGTCAC GTCCTACAAA GACTTTCGGC GCTTCCGTTT CATGTTGACT	11820
AAGAACATAG CCTCCAAAAC GTCCTAGTTT AAAGGCTAAT TCTGGTGTTA GTTCTAGGTT	11880
AGCTTCTCCA CGGACTCCAT CAGTCCCAA ATATTTACCC ATTGTTATAA AATCCTTTTC	11940
TATTTTAAAT TCGTTTTTGA ACTAGTTGCTT TTCGTTGACG AAGATGTCTC CGATGAACTG	12000
CTTGACTTG AATTGATGT GCTTGAACCTT GGTGCTACTG GTTTGTAGT CACCTTCATT	12060
ATTGTATCAA ACGGAGTGAT AACTGCCGGT AAGACAACAC CATTGCCGTC GATTGCCTGC	12120
AAAGGTACTG AACCACCTGTA ATTACCTGTT ATACGTTCCG TAGTTCGCAA AACAGCGATA	12180
ATCTTATCAA TTCTATCCAA TGTCTCTTGG TCACTCGTAA TAGACACTTC TTTATCTGAC	12240
ACCATGACAT TTTCAATTTG TACCCGACTA TCAATTTGAC TAGGGTCAAT CTCTGGTACA	12300
ATCTTTACCT TATCCTCTG AGCCTTCTTA CCAATCTGA CTGTAATTTT TTGCGGAGTC	12360
GCCACAGCG TCAGCCCAT GGGTAAATCT TCAATGCTCA AAGGAACATC AATCGTTCCA	12420
ACACCGGCAT CTGTTAGGTC AGCAGTAACC TTGAATTTAC GTGTACTTTC TTGCATTTCA	12480
CTAGCTAGCG ATAGCGGATT TGCACCAGTC AAGACCACTG ATACTTCTGA AGCAAAACCG	12540
CTAATAAAAT ACTTATCACT ATTATAGCGT ATGTCAATAG GGACATTTGT TACTGTATTA	12600
GTATAGGTTT CCGTTTTTAC CTGCCTAGCA CTGGTACTGT TTTGAAAATT CGTCGCCGTA	12660
GCATAGACAA ATAAGACACA AGCAAAAAAG AGTGAGGATA TGATATATAA ACTATTTTTC	12720
TTTATGTTTC CATCCTCCTA GCAATCGTTC TTTAAACTA AGACCCACTT CCTCTTTTGG	12780
AAGTAAGATT TCACGTAATT CTGTTTCAAA TTCATCAAGT GTTAGGTTGT GCTTAAACCT	12840
TCCATTATAG GTTATCGAAA TTCCTCCCGT TTCCTCTGAT ACGACAAAAG TCAAGGCATC	12900
TGAGACTTCT GATAAACCGA TAGCCGCCCG GTGCTCTGGT CCAAATTCCT TGGAAATCCC	12960
TGTGTTTTTT GTCAAGGCA GATAGGCAGA CGTCACAGCG ATACGTTCTT CTTTGATAAT	13020
CACCGCACCA TCATGTAGGG GAGTGTGGG AATAAAAATG TTAATGAGAA GTTCTGCAGA	13080
AATCTTAGCA TCCAAGGAA TTCCTGTCGA AATATACTCC TGCAAGGTAC GTACACGCTG	13140
AATAGCAACC AAGGCCCGA TTTTACGAGG ACTCATGTAT TCAACAGACT TAACAAAGGC	13200
ACGAATCATC TGTTCCTCAG CACTAATAGG GGCATTGGAA AAGAAATCTG TCGCTCTTCC	13260
CAAACGTTC AAACAGTCC GAATCTCTGG AGAGAAGATA ACAACCGCCG CAATAACCCC	13320
ATAAGTAATA ATTTGATTGA TTAACCAAGA AATCGTAGTC AAACCAATCA TATTGCAAG	13380

498

GATTTGAGCT AAAATAAACA CCAAACTCC	ACGTACCAAA ATCATAATCT TGGTTCCTGC	13440
AATAGCTTTT GTAAATGGT ATAAATATA	AGCAACAATC AAAATATCAA TCAGATTGAT	13500
AGCTATCGTC CATGGACTTG CAAACAACT	GGTCCAATAT TGCAGATTGG ATAATTGTTG	13560
AAAATTCATC CCTGATATCC TCCCTATCAA	AACACTTTTCG TCCTATTATA CCATTTTCTG	13620
GCATTTTTTT CCCTATCCTA GTCCATTTTA	CATTGAACAA AAATATGATA AAATAAACTG	13680
ACTAAAAAAA ACAAAGGAGA AACTATGTCT	CAACTCTATG ATATTACCAT TGTGGTGGT	13740
GGTCCTGTGC GGCTTTTTGC AGCCTTTTAT	GCCCACCTAC GCCAAGCCAA GGTTCAAATC	13800
ATCGACTCTC TTCCCCAGCT AGGTGGACAA	CCTGCTATTC TCTACCCTGA AAAGGAAATC	13860
CTAGACGTAC CAGGCTTCCC AAACCTGACT	GGAGAAGAGT TGAATAACCG CTTGATTGAA	13920
CAGCTAAATG GATTTGATAC CCCTATTCAT	CTCAATGAAA CGGTTCTTGA GATTGACAAA	13980
CAAGAAGAAT TTGCCATCAC AACTTCTAAA	GGAAGTCACC TGAATAAAC AGTTATCATC	14040
GCTATGGGTG GCGGTGCCTT CAAACCACGT	CCGCTGGAAC TTGAAGGGGT TGAGGGCTAT	14100
GAAAATATCC ACTACCACGT TTCTAACATT	CAGCAATACG CTGGTAAGAA AGTGACGATT	14160
CTTGCTGGGG GAGACTCGGC TGTGGATTGG	GCTTTGGCTT TTGAAAAAAT CGCACCAACT	14220
ACCCTTGTTT ACCGCAGAGA TAATTTCCGT	GCCTTGGAAC ACAGTGTTCA AGCCTTGCAA	14280
GAATCATCTG TAACCATCAA GACACCATTG	GCCCCTAGCC AACTCCTTGG AAATGGAAAA	14340
ACACTTGATA AACTTGAAAT CACAAAAGTC	AAATCTGATG AAATGAAAC CATTGACCTA	14400
GACCACCTCT TTGTCAACTA TGGTTTCAAA	TCTTCTGTCG GTAACCTTAA AACTGGGGG	14460
CTCGACCTCA ACCGTCACAA GATTATCGTC	AACAGCAAAC AGGAATCCAG CCAAGCAGGT	14520
ATCTATGCTA TCGGTGACTG CTGCTACTAT	GACGGAAAAA TTGATCTGAT TGCGACAGGC	14580
CTCGGAGAAG CTCCAACCTG TGTCAACAAC	GCTATCAACT ACATTGACCC TGAACAAAAA	14640
GTACAACCAA AACACTCTAC TAGTTTATAA	AAAAGAACCA CGAGTCACAT AGGATTCTGT	14700
GTTTTATAAT TCATCCGCTA TCTTATTGAT	TTTTCTGAGT CTGTGATTGA CACCACTTTT	14760
GCTCAGAGGG GTGCTGAGAC TATCTGCTAA	CTGCTGGATA GAGTAGTCTG GGTGCTGAAT	14820
CCTCAGTTGC GCCACTTCCT GCAAACTCTAC	TGGCAAATTT TCTAAGCCCA TGATATCTTT	14880
GATTTTACTG ATATTGTTAA TGGTCTTCAT	GCTGGCAGAA ACTGTCCGAG CGATATTAGC	14940
TGTCTCGGCA TTATTAGCCC GATTGAGGTC	GTTACGGGTT TCTCGCAAAA TCTTAACCCG	15000
CTCAAAATCA TCACGTGCCT GCATGGCTCC	TATTACTATC AAGAAGTCCA TAATGTCTTC	15060
TGCTCGCTGG AGATAGGTCA CAGCCCCCTT	CTTGCGCTCA AGCACCTTGG CATCCAGTAA	15120
AAACTGTTGG AGAAGGGAGG CAATTCCTTG	CGCGTGGTCC AGATAAACAG AACTGATTTC	15180

CAACTGGTAC TTGCCTGACT CAGGGTCACG AATGCTCCCA TTTGCCAAGA AAGCGCCACA	15240
GAGATAGGCA CGACCTGCTT CCTCATCCGA TAAAATCGCC TCATCAATAC CTGTTTCCAG	15300
GCCAAAGAAA GAGTCTGCCA AGTGCAAATC ACTTAACAAA TCCTGCACCT TTTCATCTGT	15360
AAAAACGGTA TAGACGCGAT TCTTGCGAAG ATTGCTCCGT TGGTGGTGAC GAATTTTCAGA	15420
TTTGATTTC A TAGAGATGGA GAAAGGACTC ATAGAGGTGA CGGGCCAGTT TGGCATTTTC	15480
TGTCACAACT GACAAAGTCA AGCCCGAAGT CGAGAGACCG ATGCTACCAG ACATTTTGAT	15540
AATGGCAGAT AATTCATGCC AGCTCAGATG GTGTTGGCCC AGGATTTCTT CTTTTACTGC	15600
TACTGTGAAA CTCATTTTTT CACCTGTATA ATGCGCATCA ACTCGTCCAC AATCAAATCT	15660
CCATCGTGA AGGCACCGCC ATTTTCCAGA CGAAGGAAGT TAGATGAAAT CACGCGCGAA	15720
ACTTGCATTAC AAAGACCTAC AAAATCGTGT TCCACTTGCA CTAAGTATTC ATCAAAACGG	15780
TTGGAATTC A TGTATTCCTG AGGCACTTTT TCAATATTC A CAAGACAGT GTCGATAAAA	15840
GGGCGACCAA GGTGACGATG CAAGACTTCC ACGTGGTCGC TATCTGTAAA GTGTTCCGTC	15900
TCCCCACGTT GGGTCATGAT ATTGCAGACA TAGGCAATTT CTGCCTTGGT TTCCAAAAGA	15960
GCCCGCCCAA TTTCCTTAAT CACGATATTG GGCAAAATAG AGGTAAAGAG GGAACCTGGC	16020
CCTAGGACAA TCATGTCACT TTCAAGGATG GTCTGCACTA CTCGACGGCT GGCCAGAGGC	16080
GTATCATCGT TTAGGGCATT GGTACATAG ACATTGTCAA TTATGCCTCG ATGGTCTACA	16140
ATATGACTCT CTCCAGCCAC TTCTGTCCCA TCCTGAAAGA CTGCATGAAG GGTCAAAGGA	16200
TGGTCACTGG AAGGATAAAT TTTCCCTGTT GTATGGAAAA ATTTGCTCAA TAACTGCATG	16260
GCATTATAGG TTGAACCTG CATTCTGAC AAGCCAGCAA TGATGAGATT TCCCAATGGA	16320
TGGCCAGCAA AGGCTCCGGC ATCCTCAGAG AACCGATACT GAAAGACCTT CTCATAAAAC	16380
TTAGGCATAT CCGACATGGC CACAAGGACA TTACGAAGAT CACCTGGCGG TGTCAACTGT	16440
TGCATATTTT TTCGGAGTTC ACCTGAAGAA CCACCATCAT CTGCCACCGT CACGATAGCT	16500
GCGATTGCCA CATCTTTTTC CCGCAGACTT TTTAGAATGA CGGGACTTCC AGTCCCTCCA	16560
CCAATCACCG TTATCTTTGG TTTTCTCATG AACGGTTTAC CGTTTCCTTT CTGCGGTCTT	16620
TGTCGCGATG CCCTTCATTA ACAGACCAAT TCTTGATAA GTCCTGCCCC AAGCGTTTAG	16680
CAATGCCAC ACTACGGTGT TGTCCACCCG TACATCCCAT GGCAATGGTC AAAACGGACT	16740
TACCTTCCTT TTGGTAACTT GGCAGAAATG GCTCAATCAA GGCCAATAAA TGTGATAAA	16800
AGTCTTCTGA CTCAGGATGG TTCATGACAT AATCATAAAC AGGTTTCATCC ACACCCGTTT	16860
GGTTTCTCAG TTCTGGTAAA TAATAGGGAT TTGGCAAGAA ACGGACATCA AAGACCAAGT	16920

500

CCGCATCAAT CGGGATTCCA TACTTAAATC CGAAAGACAT GACTTCGATA CGGAAAGACT	16980
GGGCTTGTTT TTGGTCTGAA AACTGCTCTG CAAGGGTTT GCGCAGCTCA CGTGGAGTGA	17040
GTTCAGTCGT ATCCACCACA TTTTGGCTCA TATTTTTCAG AGGTGCCAAG AGTTCACGTT	17100
CCAACTTGAT TCCATCTAAA ATACGACCGT CTGCTGCTAG TGGGTGACTC CGTCTGGTTT	17160
CCTTGTAACG AGCGACCAAT TCCTTATCAG CCGCATCCAA AAAGAGGATT TTGAAATCCA	17220
AACCATCTTG ATTTTCCAAC TCATCCAAAA CAGCTTGAAT CTCTGAAAAG AAAGAACGGC	17280
TACGCATATC CACTACCAAG GCCAACTTAG GATTGTCTTC CTTAATTTCA ACCAGCTGCA	17340
AAAACCTTAG CAAGAGAGCT GCGGCATAT TATCAATGGT GAAATAACCT AGATCCTCGA	17400
AGGACTGAAT GGCTACAGTT TTCCCTGCGC CACTCATCCC TGTCACAATC ACCAAGTGAA	17460
GTGTTTCTT TGTATCTTT TTCTCCTTAT ATCAAAAGAA GTTTGGCAAC ACCAAACTTC	17520
AACTAGCTTA TCCAATCTCT GCGATGACTT CAATTTGAC TTTTACATCA CGAGGAAGAC	17580
GAGCTACCTC CACAGCTGAA CGAGCTGGGA ATTCTCTTTT GAAGGCCGTT TGGTAAACCT	17640
CATTAAAAGG AACAAAGTCG TTCATATCGC TCAAGAAGCA AGTTGTTTTG ACAACATGGT	17700
CAAAGTCTGT TCCTGCTTCT GCCAAAATAG CACCGATGTT TTTCAGACT TGCTCTGTCT	17760
GTCTTTGGAT ATTCTCTCCT ACAATTTCCC CAGTTTCAGG GGATAGGGGA ACTTGACCGC	17820
TAGCAAACAA AAGGTGCCA ACGATTTTTC CTTGAACATA GGGTCCGATA GCCTTTGGGG	17880
CCTTATCTGT ATGAATTGTT TTTGCCATTT TCTTTTCTC ACAATTTTTC TAAGATTGCA	17940
TCCCAAGCCT CATCCATCCC TGCCTTACTG ACAGATGAAA AGAGGATGAA ATCGTCACTC	18000
GGGTCAAAGT TTAATTTCTT TTTGATIGCT GATTCATGCT TGTTCATTT ACCACGAGGA	18060
ATCTTGTCGG CCTTGGTCGC CACAATGATG ACTGGAATCT CATAATACTT GAGAAATTCG	18120
TACATCTGCA CATCATCTGC TGACGGGTCA TGACGAAGGT CAACTAGACT GACAACCGCA	18180
CGGAGATTTT CCCGAGTCGT TAAGTACTCC TCAATCATGC ACCCCCCTT TTCACGTTC	18240
TTTTTTAGAAA CACGAGCATA GCCATAACCA GGCACATCCA CAAAGCGCAT CTTGTCATCA	18300
ATGTTAAAAA AGTTCAGGAG CTGGGTTTTA CCAGGTTTTC CTGATGTACG GGCGAGATTC	18360
TTACGGTTCA ACATAGTGTT GATAAAGCTG GATTTACCAA CATTTGAACG CCCTGCTAGG	18420
GCAATCTCTG GCAGTTTCATC CTGCGGATAG TGGGACTTAT TAGCTGCACT GAGCAAGATT	18480
TCAGCATTGT GTGTATTAAG TTCCATAGTC ACCTCTAGGC TGTTTCTAGG ATCGGTTTAT	18540
CCGTTCATC TACAGTTTCT TTAGTGATGC GAACCAATTT CACATTTTCC TGACTCGGCA	18600
CCTCAAACAT GACATCTAGC ATGGTTTCTT CGATGATGGA GCGAAGTCCA CGCGCCCCCTG	18660
TCTTCCGTTT GATTGCTTTA TTAGCAATCT CTTGAAGGGC TTCGTCGTCA AATTCCAAC	18720

501

CAACATCATC ATAAGAAAGC AAGGTTTGGT ATTGTTTCAC CAAGGCATTT CTTGGCTCTT	18780
TCAAGATGCG AACCAAGTCA TCAACGGTCA ATTGCTCAAG AGCCGCAAAA ACAGGCAAGC	18840
GTCCAATCAA CTCAGGGATA ATACCAAATT TTTGAATGTC TTCAGCGATG ATTTCTTGCA	18900
TGTATGAGCT GTTTTTCGTCA ATCGCCTTAT TATTTTGACC AAATCCGATG ACTTTTTTAC	18960
CCAGACGTTG TTTGACAATT TCTTCAATAC CATCAAAAGC ACCACCCACG ATGAAGAGGA	19020
TATTTTGTGT ATCCACTTGA ATCATCTCTT GTTGTGGATG TTTGCGTCCA CCTTGAGGCG	19080
GTACGCTAGC AACAGTTCCC TCAATAATCT TGAGAAGGCG TTGTTGCACC CCTTCACCA	19140
AAACATCACC TGTGATAGAC ACATTCTCAC TCTTCTTGGC AATCTTGTC AATTCATCCA	19200
CATAGATAAT GCCACGCTCT GCACGTTCTGA TGTAAAGTC AGCAACCTGC AAGAGTTTGA	19260
GGAGGATATT TTCCACATCC TCACCCACAT AACCGCCTC CGTCAGAGCT GTCGCATCCG	19320
CAATAGCAAA AGGTACATTC AAGCTCTTAG CCAAGGTCTG GGCAAGGAAA GTTTTCCCTG	19380
AACCAAGTTG GCCAATCATC AAAATGTTTG ACTTCTGCAA ATCCACATCT TCTGACTCTT	19440
CGCGTGTATC GTGGAAATTG ATGCGTTTGT AGTGGTTATA AACCGCCACT GCCAAGGCAC	19500
GCTTGGCACG ATCTTGACCA ATTACATAGT GGTTCAGAT ATGGAGGAGT TCAATTGGTT	19560
TTGGCACCTC AGACAAGTCT GCCAAGACTT CCTCAACCA TTCTTCTCGA ATGATTTCTT	19620
GAGCTAACTC CACGCATTCA TTACAAATAA AAGCATTGTT GCCAGCAATT ATTTTGTGA	19680
CTTCTTCTTG GTTTTGTCCA CAAAATGAGC AATAAACCAT CATATCATTT TTCTATTTG	19740
TAGACATGAT TTCCTTCCAT TCTATACTGT CATCTATCT AAAATAAGGT CATGTAAAAA	19800
GCATGAATAC TATTGACCAG ATTGGTAAAG GCATTTAACC AAAGGAGGAT AGAAAGCCCG	19860
TAACGCTTTT TACGAAAAGC TTGTGCTCCT GCCAGAAAGC AGATGAAACA CAGAAAAGCC	19920
GTGAATAGAC CAAATAAACT CCGTTCATT AGACTTCCTT TCTCTGCGG TATTGGATGG	19980
TAAATCATA AGGATTCCTC TCATCTTTGG CGTAAAATTT GCTTGAAACT GTCTCAAAAA	20040
GAGACAAGTC AAGTTCTTCA GGGAAATAGG TATCTCCTTC CACCCGAGCA TGAATGTGAG	20100
TGACAATCAC TTCATCAAGG TAAGGTCAA AAGCCTGAAA AATTGCTTC CCACCGATAA	20160
TGTAGAGATT CTTTCTTGA GCCTGATACC AGTCAAGAAC AGACTGGACC TCCTGAAAAG	20220
TAGCAACCCC ATCTATCTTT TCTTCCGGAT TACGCGTCAA AATCAAGGTT TCCCGTTTGT	20280
GAAGCAAGCG ACGCCCCATC CCATCAAAGG TCACACGCCC CATCAAGATA GCATGATTCA	20340
GAGTTGTTTC TTAAAGTGC TGCAATTCTG CTGGCAAATG CCAAGGCAGA CGATTTTCCT	20400
TACCAATCAC ACCCTCTTCA TCCTGGGCCC AAATAGCTAC GATTTCCTTA GTCATGCTTC	20460

502

CATCCTTTTC ACTGATAGTA CTATTTTATC AAAAACTCA AAAAAAGACT GGTTTGGAAT	20520
AGCTTACAAA ATAGAAAAAA TCTGTAAGAA ATTTCCTACA GATTATCTA TGTTTCCTTA	20580
TTTCTTACAA ACCAGGTGCT TGTCCAAGTT CGGCTGCAAG CATCCAAATT GTTTTATCTG	20640
TTTCAGTTTT AGCGCCTGCA AAGATACCGT TTGTCACATC GTCACCTTCT TCATCAGTGA	20700
CATCCAAACC TTTTGGAAA AGTTCTGACA AGTAACGGTA GATAACAAGA ACACGTTCCTA	20760
AGCTTTCTTC AACATTACGG TATTCACCAG CTCTCTCTTC GATTTTACTA TTTTGAAGGA	20820
ACTCTGTCAA TGTAAGAAT GGGCTTCCAC CGAGTGAAT CAAGCGTCA CTGATTTTCT	20880
CCAATTGACC GTCAAGAGCT TCCATGTACT CATCCATTTT TGGATGCCAT ACAAGGAAAC	20940
CACGACCATG CATATACCAG TGCCTTGGT GCAAAGCAAC GTGAGCTACA TACAAATCAG	21000
CAACAGCTTG GTTCAAGACT TCCTTTGTTT TTGCCAATGC	21040

(2) INFORMATION FOR SEQ ID NO: 56:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 2387 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: double
 - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 56:

ATTCTTAATA CGATTAAAG GCTTATTACT AAAAGAAAAT TTCAGTTAGA TGAATAAAC	60
TTGCTCGTCA AATCCCGATT TAACGAGATG TTTGGGGAAA ATAAATATT TGAAAGCATT	120
GATAACTTAT TTGATATTAT AGATGGTGAT AGGGGCAAAA ATTATCCTAA ATCAGATGAG	180
TTGTTTAGTG AGGAGTACTG TTTATTTTAA AATACAAAGA ATGTTACTAA AAACGGATTT	240
TCATTTCGATA CAAAGCAATT TATCACTAAA ACAAGGATA AATTACTTCG AAAAGGCAAA	300
CTTGAGCGTT ATGATATAGT CTTGACAACA AGAGGTACTG TTGGAATGT AGCGTACTAC	360
GATGAATTAA TAAATATATA ACATTTACGT ATAAATTCAG GTATGGTAAT ATTACGTCCC	420
AAGACACCAA ATCTAAATCA GAAATTTAT ATCCATGTTT TAAGGAATAA TAATTATAGT	480
CGAGTGATAT CAGGAAGTGC TCAGCCTCAG TTACCAATTA CAAAATTAAA AAAAATACTT	540
CTCCCCCTCC CCCCACTAGC CCTCCAAAAT GAGTTCGCAG ACTTTGTAGT CCAGGTCGAC	600
AAATCACAAT TGGCAATCCA AAAATCTCTG GAAGAACTTG AACTTTGAA GAAATCTCTG	660
ATGCAGGAGT ATTTTGCTG ATATTCTGCC ATTGTAATTA CGTAATGAT TTGTTATAAT	720
ACTTCAAAGG AGGAAATCAG ATGGTAGTAA AAACAAGAAA ACAAGGAAAT TCAATCACCA	780
TTACGATTCC AAGTGAATTT AATATTCCAA GTGGTGTTAA ATACGAAGCG AAATTGTTAC	840

503

CAAGTGGTGA GATTATCTTT ACTCCTGAAG AATTGGGGCA GCAGGTTTCT TATGTATCTG	900
ATGATGCCTT TGA CT TAAAT TTAGATAAAA TATTTGACCA ATACGACGAT GTTTC AAAG	960
CTTTGGTGGA AAAATGACAA TCTATTTGAC AGAAAAGCAA ATTGAAAAA TAAATGCTTT	1020
AGCAATTCAA CGGTATTCTC CAAATGAGAA AATTC AAACA GTTAGTCCTT CTGCCTTAAA	1080
TATGATTGTG AACTTACCAG AACAA TTTGT CTTTGGGAAG CCTCTTTATC CAACAATTTT	1140
TGATAAAGCA ACGATACTAT TTGTCCAATT GATAAAGAAG CATGTTTTTG CTAATGCTAA	1200
TAAAAGA ACT GCTTCTTCG TTTTGGTCAA ATTTTACAA TTAAACGGCT ATCGTTTTTC	1260
TGTAACGGTA GAAGAAGCAG TAAAAATGTG TGTAACCATC GCAGTAGAAG CTTTAAC TGA	1320
TGAAAAATG ACAAGCTACT CCAAATGGAT TTCTGAACAT TCTGTTAGAG AAAAGCTCAA	1380
AAAGTAACCT AGTATGCTGG ATTTGAATGA GCACAAGAAA ATAAATGAAC AGACAATATT	1440
AGAATTCTGT AATGCAGAAA CTGATATTGT CTCTTTTAT TGATGAATAA GAAAGTGAGA	1500
AATTATGGA TCAAAAGTTA CAATTATCAT GCAAGAAATG TTACCTCTT TAAATAATGA	1560
ACAATTACTA GCGTTGAGAG AGAGTTTAGA ACATCATCTA GTAGACGGA AAAAGCAGCA	1620
GAAGTATTCG AATAATAACC TGTGCAACT ATTTATTACC GCCAAGCAGG TAGAGGGCTG	1680
TAGCTCAAAA ACAATTCGTT ATTATCAGAG GACGATTGAA AACTTGTTTA ATGCTATTAA	1740
AGAGTCTGTG ACACA ACTCA CAACAGATGA TTAAAGGAGT TATTTAGCAA ATTACCAGTC	1800
TGAAAAGGAT TG TAGTAAGG CAAATTTAGA CAATATTAGG CGTATATTGT CTCTTTT TTT	1860
TGCTTGGCTT GAGCAAGAGG ATATATCATT AAAAT TCCCA TTCGACGGAT ACAGAAAATT	1920
AAGACTGAGC AAAATGTGAA GGAAACTTAT ACTGATGAAC ATTTGGAAAT TATGCGTGAT	1980
AACTGTGAAA ATTTGAGAGA TTTGGCAATA ATAGACCTAC TAGCATCGAC AGGTATGCGT	2040
GTAGGGGAGC TTGTACAGTT GAATCGTTCA GATATTGATT TTGAAAACAG AGAGTGTGTT	2100
GTCTTTGGTA AAGGAAAGAA GGAGAGACCA GTATATTTTG ACGCTCCTAC GAAAATTCAT	2160
TTAAGAAATT ATCTTAACGA CAGAAAAGAT AGTCACCTG CTCTTTTGT AACGCTAGTT	2220
GGAAAAGTCC AGAGGCTTGG AATTGCTGGT GTAGAGATTC GCTTAAGAAA GTTAGGAGAC	2280
AAACTCGGCA TACAAAAGGT TCACCCACAT AAGTTCAGAA GAACTTTAGC GACTAAGGCA	2340
ATTGATAAAG GTATGCCTAT CGAACAAGTC CAAAACTGC TAGGTCA	2387

(2) INFORMATION FOR SEQ ID NO: 57:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 10669 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: double

504

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 57:

ATATTAAAGC GACTTCTGT GCGCTAGGGA AAAATGTTCC TGGGAATGAG GACTTGGTGA	60
AGAGGATAAA ATCTGAAGGT CATGTTGTTG GAAACCATAG CTGGAGCCAT CCGATTCTCT	120
CGCAACTCTC TCTTGATGAA GCTAAAAAGC AGATTACTGA TACTGAGGAT GTGCTAACTA	180
AAGTGCTGGG TTCTAGTTCT AAACCATGC GTCCACCTTA TGGTGCTATT ACAGATGATA	240
TTTCGAATAG CTTGGATTG AGCTTTATCA TGTGGGATGT GGATAGTCTG GACTGGAAGA	300
GTAAAAATGA AGCATCTATT TTGACAGAAA TTCAGTATCA AGTAGCTAAT GGCTCTATCG	360
TTTTGATGCA TGATATTCAC AGTCCGACAG TCAATGCCTT GCCAAGGGTC ATTGAGTATT	420
TGAAAAATCA AGGTTATACC TTTGTGACCA TACCAGAGAT GCTCAATACT CGCCTAAAAG	480
CTCATGAGCT GTACTATAGT CGTGATGAAT AAGCAAGAAA AAATAGGTCT GTTAGATATT	540
TGACAGACTT ATTTTTCACA GAATATAGTA CTACTTAAAA AATGTTTTAT GCTATAATTG	600
ATGAATAAAA TAGAAGGAGA AGCATATGAA TACCTATCAA TTAATAATG GAGTAGAAAT	660
TCCAGTATTG GGATTGGAA CTTTTAAGGC TAAGGATGGA GAAGAAGCCT ATCGTCAGT	720
GTTAGAAGCC TTGAAGGCTG GTTATCGTCA TATTGATACG GCGGCGATTT ATCAGAATGA	780
AGAAAGTGTT GGTCAAGCAA TCAAAGATAG CGGAGTTCCA CGTGAAGAAA TGTTCGTAAC	840
TACCAAGCTT TGGAAATAGC AGCAAACTTA TGAGCAAACCT CGTCAAGCTT TCGAAAAATC	900
TATAGAAAAA CTGGGCTTGG ATTATTTGGA TTTGTATTTG ATTCATTGGC CGAACCCAAA	960
ACCGCTCAGA GAAAATGACG CATGGAAAAC TCGCAATGCG GAAGTTTGA GAGCGATGGA	1020
AGACCTCTAT CAAGAAGGGA AAATCCGTGC TATCGGCGTT AGCAATTTTC TTCCCCTCA	1080
TTTGGATGCC TTGCTTGAAA CTGCAACTAT CGTTCCTGCG GTCAATCAAG TTCGCTTGGC	1140
GCCAGGTGTG TATCAAGATC AAGTCGTAGC TTAAGTGTCT GAAAAGGGAA TTTTATTGGA	1200
AGCTTGGGGG CCTTTTGGAC AAGGAGAACT GTTTGATAGC AAGCAAGTCC AAGAAATAGC	1260
AGCAAATCAC GGAAATCGG TTGCTCAGAT AGCCTTGGCC TGGAGCTTGG CAGAAGGATT	1320
TTTACCCTT CCAAAATCTG TCACAACCTC TCGTATTCAA GCTAATCTTG ATTGCTTTGG	1380
AATTGAACTG AGTCATGAGG AGAGAGAAAC CTTAAAAACG ATTGCTGTTC AATCGGGTGC	1440
TCCACGAGTT GATGATGTGG ATTTCTAGAA AATCATAAAA AGAATTGTAC ATTATTCTAA	1500
TTTTTGATAT AATAGTCAGC AGGAAAGAAA GTCTTATGGC GTTCTTCAAG CGAGCTTGGG	1560
ATAGTGGGAG CCAAGTAGGG CAAAATAAAG GGCTGGCGCT TTCTGTAGTA TTTTCAAAAA	1620

505

CAATGAAGTA ATAAATTAGG GTGGAACCGC GTTCTGACG CCCCTAGGTT AAATCAACCT	1680
AGGATTGTCA GATGTGGTTC TTTTGCTTAT TCAGTCTATT GTGTGAAAGA AAGGAGAGCC	1740
GTGGACAACC TTTATCTTGT AAAAGACGAT AGTCAACTAG CTACATTTCG TGATTTTGTA	1800
GTAAGAAATA CTGAAAAGTT GAAAGATTAT CAATCTTTTT TAAAGAAATGA ACTTGCAGTC	1860
TGTGATTTAC CGCAAGCTGT TATTTGGTCA GATTTTAATG CTGCTACACA GATTATTAGG	1920
GAAAGTGCTG TTCCAACCTA TACAAATAAT AGACGAGTGG TTATGACGCC TGATTTAGCT	1980
GTTTGGAAG AATTGTATTT GTATCAGTTG ATGGACTACG AGTGTTCTGA GCAAACCTCA	2040
GCAATAGAAA GTCATATCA TTCTTTATCT GAAAATTTC TCTTACAGAT TGTAGGACAT	2100
GAGTTAGCTC ATTGGTCGGA CATTTTTTAG ATGATTTTGA TGGTTATGAC TCTTATATCT	2160
GGTTCGAAGA GGGGATGGTT GAATATATTA GTCCCAAGTA TTTCTTGACA GAAGAGGAAT	2220
TTCAAGCGGA AAAAATTTGT AATCAATCTC TCGTAGAACT TTTTCAGAAG AAGTATAGTT	2280
GGCATTCAAT GAATGATTTT GTTCTTTCGA CTTATGATAA GAACTATGCA AGTATTTTTT	2340
ATGAATACTG CGCGAGCTTT TTGACAGTAG ATAAGTTGGT AGAAAATTTA GGTAGTGTAC	2400
AAGCGGTCTT AGATTCTTAT CATTTATGGG CAAATACAGA AAAAACTTTT CCCTTGTTAG	2460
ATTGGTTTGT TCAGCAGAAA TTAATTGAAA AAGAAATATA AAAACTAAAG GAGTAAACAA	2520
TGTCTAAGAA ATTAACATTT CACTGCATCA GTGGCAGAGA CCTCCTTACA GTCGGGCTGC	2580
TCCACGCTCA GCACTAGAGT GCCTGAGCTA GACGCAGTAC TAACTCGTCT TGCCTCGTAT	2640
GATCGACGAG GCAGACTCGT GTCGCAAGTA ATTATTTTTT ATTAAGGAGT ATTCAATGTC	2700
TAAGAAATTA ACATTTCACT GCGTCAGTGG CAGAAACCTC CTTACAGTCG GACTGCCCTA	2760
CGCTCAGCAC TAGAGTGCCT GAGCTAGACG CAGTACTAAC TCGTCTTCCC TCGTATAATC	2820
GACGAGGCAG ACTCGTGTCG CAAGAAATTA TTTTTTATTA AGGAGTATTC AATGTCTAAG	2880
AAATTAACAT TTCAAGAAAT TATTTTGACT TTGCAACAAT TTTGGAATGA CCAAGATTGT	2940
ATGCTTATGC AGGCTTATGA TAATGAAAAA GGTGCGGGGA CAATGAGTCC TTACACTTTC	3000
CTTCGTGCTA TCGGACCTGA GCCATGGAAT GCAGCTTATG TAGAGCCATC ACGTCGTCTT	3060
GCTGACGGTC GTTATGGGGA AAACCCTAAC CGTCTCTACC AACACCACCA ATTCCAGGTG	3120
GTCATGAAGC CTCTCCATC AAATATCCAA GAACTTTACC TTGAGTCTTT GGAAAAATTG	3180
GGAATCAATC CTTTGAGCA CGATATTCGT TTTGTTGAGG ACAACTGGGA AAACCATCA	3240
ACTGGTTCAG CTGGTCTGG TTGGGAAGTT TGGCTTGACG GAATGGAAAT CACTCAGTTC	3300
ACTTATTTCC AACAAGTCGG TGGATTGGCA ACTGGCCCTG TGACTGCGGA AGTTACCTAT	3360

506

GGTTTGGAGC GCTTGGCTTC TTACATTCAA GAAGTAGACT CTGTCTATGA TATCGAGTGG	3420
GCTGATGGTG TAAAAACGG AGAAATCTTT ATCCAGCCTG AGTATGAGCA CTCAAAAATAT	3480
TCATTTGAAA TTTCGGACCA AGAAATGTTG CTTGAAAACCT TTGATAAGTT TGAAAAAGAA	3540
GCTGGTCGTG CATTAGAAGA AGGCTTGGTA CACCCTGCCT ATGACTATGT TCTCAAATGT	3600
TCACATACCT TTAATCTGCT TGACGCGCGT GGTGCCGTAT CTGTAACAGA GCGTGCAGGC	3660
TATATCGCTC GTATCCGTAA CTTGGCCCGT GTCGTAGCCA AAACCTTTGT CGCAGAACGC	3720
AAACGCCTAG GCTACCCACT TTTGGATGAA GAAACAAGAG CTAAACTCCT AGCAGAAGAC	3780
GCAGAATAAA GAGAGTGACA AATTACGAAA ATGGGCGAAC AGAGTGAGCC CTGAGCCAGT	3840
TGCCCGAGTG ATGAAGGTAT CCTTAGTGAA ACTAAGGATA CTAGGCAAAA TTGGAGACTT	3900
TTGGCTCCAA TTTTAGCAAT GAAACAACGA AGTTGGTTGC TTGCGTGCCA ATCACATAAG	3960
GCAAACTGGA AAATAAAAAG ATACTTTTCG GAGAAAAAAC ATGACAAAAA ACTTATTAGT	4020
AGAAGCTCGT CTGAAGAAT TACCAGCCTA TGTGTGTACG CCAAGTGAAA AACAAGTAGG	4080
CGAAAAATG GCAGCCTTCC TCAAGGAAA ACGCCTGTCT TTTGAAGCCA TTCAACTTT	4140
CTCAACACCA CGTCGTTTGG CTGTTCGTGT AACTGGTCTT GCAGACAAAC AGTCTGATTT	4200
AACAGAAGAT TTCAAGGGTC CAGCAAAGAA AATTGCCTTA GATAGTGATG GAAACTTCAC	4260
CAAAGCAGCT CAAGGATTTG TCCGTGGGAA AGGTTTGAAT GTTGAAGATA TCGAATTCGG	4320
TGAAATCAAG GGTGAAGAAT ATGTCTATGT CACTAAGGAA GAAATGGTC AAGCACTGA	4380
AGCCATTGTT CCAGGCATTG TGGATGTCTT GAAGTCACTG ACTTTCCTTG TCAGCATGCA	4440
CTGGGCGGGA AATAGCTTTG AATACATCCG CCCTGTTCAC ACTTTAACTG TTCTCTTGGA	4500
TGAGCAAGAG TTTGACTTGG ATTTTCCTGA TATCAAGGGA AGTCGTGTGA GTCGTGGCCA	4560
TCGTTTTTTG GGACAAGAAA CCAAGATTCA GTCAGCATTG AGCTATGAAG AAGACCTTCG	4620
TAAGCAGTTT GTAATCGCAG ATCCATGTGA ACGTGAGCAA ATGATGTGTG ACCAAATCAA	4680
GGAAATTGAG GCAAAACATG GTGTACGTAT CGAAATTGAT CGGGATTGTC TGAATGAAGT	4740
CTTGAATTTG GTTGAATACC CAACTGCCTT CATGGGAAGT TTTGATGCTA AATACCTTGA	4800
AGTTCCAGAA GAAGTCTTGG TGACTTCTAT GAAGGAACAC CAGCGTTACT TTGTTGTTCC	4860
TGATCAAGAT GGAAAACTCT TGCCAAACTT CATTTCTGTT CGTAACGGAA ACGCAGAGCG	4920
TTTGAAAAAT GTCATCAAAG GAAATGAAAA AGTCTTGTA GCCCGCTTGG AAGACGGAGA	4980
ATTCTTCTGG CGTGAAGACC AAAAAATGGT GATTTCAGAT CTTGTTGAAA AATTAAACAA	5040
TGTCACCTTC CATGAGAAGA TTGGTTCTCT TCGTGAACAC ATGATTCGTA CGGGTCAAAT	5100
CACTGTACTT TTGGCAGAAA AAGCTAGTTT GTCAGTGGAT GAAACAGTTG ACCTTGCTCG	5160

507

TGCAGCAGCC ATTTACAAGT TTGACTTGTT GACAGGTATG GTTGGTGAAT TTGACGAACT	5220
CCAAGGAATT ATGGGTGAAA AATACACCCT TCTTGCTGGT GAAACTCCAG CGGTGGCAGC	5280
TGCTATTCTG GAACACTACA TGCCTACATC AGCTGAAGGA GAACTTCCAG AGAGCAAGGT	5340
CGGCGCAGTT CTAGCCATTG CAGACAAATT GGATACGATT TTGAGTTTCT TCTCAGTAGG	5400
ATTGATTCCA TCAGGTCTTA ATGACCCCTA TGCCCTTCGT CGTGCAACTC AAGGTGTGGT	5460
TCGTATCTTG GATGCCTTTG GTTGGCACAT TGCTATGGAT GAGCTGATTG ATAGCCTTTA	5520
TGCATTGAAA TTTGACAGTT TGAATTATGA AAATAAGCA GAGGTTATGG ACTTTATCAA	5580
GGCTCGTGTT GATAAGATGA TGGGCTCTAC TCCAAAAGAT ATCAAGGAAG CAGTTCTTGC	5640
AGGTTCAAAC TTTGTTGTGG CAGATATGTT GGAAGCAGCA AGTGCTCTCG TAGAAGTAAAG	5700
CAAGGAAGAA GATTTTAAAC CATCTGTTGA ATCACTTTCT CGTGCCTTTA ACCTGGCCGA	5760
GAAGGCAGAA GGGGTTGCTA CGGTTGATTC AGCACTATTT GAGAATGACC AAGAAAAAGC	5820
TTTGGCAGAA GCAGTAGAAA CACTCATTTT ATCAGGACCT GCAAGTCAGC AATTGAACAA	5880
ACTTTTTCGC CTAGCCAG TCATTGATGC TTTCTTTGAA AATACTATGG TAATGGCTGA	5940
AGATCAGGCT GTCGTCAAA ATCGTTTGGC AATCTTGTC AACTAALCCA AGAAAGCAGC	6000
TAAGTTTGCT TGTTTTAACC AAATTAACAC TAAATAAAAT TTGATAAACG GACTTTATCT	6060
TATTACAAAG GAGAAGAAAT GGATCCGAAA AAAATTGCTC GTATCAATGA GCTTGCTAAA	6120
AAGAAAAAAA CAGAAGGCTT AACACCAGAA GAAAAAGTGG AACAAGCCAA ACTACGTGAG	6180
GAGTACATCG AAGGTATCG CCGCGCTGTT CGTCACCACA TTGAAGGAAT CAAAATTGTG	6240
GACGAAGAAG GAAACGATGT TACACCAGAA AACTACGCC AAGTACAACG TAAAAAGGA	6300
TTACATGGCC GTAGTCTTGA TGATCCAAAT TCATAATAAT ACTCTTCGAA AATCAAATTC	6360
AAACCACGTC AGCTTCACCT TGCCGTACTT AAGTACAGCC TGCGGCTAGC TTCCTAGTTT	6420
GCTCTTTGAT TTTCAATGAG TATATGTATT CTTTCTTTTA ACAAAGATAG ATGAAACGAT	6480
AACAAAGAGA CTAGCAGTTT GTGTTTGCTA GTCTTTTTC GCTAAAAAAG GAACCATAAT	6540
GGTTCCTAAA AACTATCATT AGTAACTTGC ACCGGCTGTA GCGTCTGCGT CACCACCGTG	6600
GCCTCCAGCA TCCCCTGAAT CAGAAGCGCC AGAAGTAGCA TCGGCGTCTC CATGACCTCC	6660
GGCAGCAGGA GCAAAATGGTC CGCTACCACC CACCAAACGT TGACCAGTCT CTTTLAGGTA	6720
CCAGTCAAGC CATGGTTGGA AGTTAAAGAC GATTTCAATG ATACCAGCGT ATGATCCATC	6780
AGGATAGTAC ATTGCTTGGT AGTTGTGAGT GTTGATAACA CCTGCAGGAG AACCTGGAAC	6840
GATCGTACGG ACGTATCTT GGTTCGCTT GCGAAGTGTT CCGATAACCC ACTCTACGTT	6900

508

CTTCATACGT GCTGGTGGAA GAGAACCATG AACAGTCGAC ATACGGCTAC CTGATTGAGG	6960
TGGTACACGT TTAGCGAACA TAGTGTCTGG ATCTTGGTGA GCGTTGTTGT AGTAGAGGAA	7020
TTGGTTGTTG TCGTCAGCGT ATGTCAATTC AAATGGCATA GCTTTCAAGA ACATATCAAT	7080
TTGGTTAACT GTTAGGATAC CGTGGTCCAA TTTGACATAG GTATCACCAG AAACAGCACC	7140
AGTGAATGCT GCAACTTTTT CTACCCATTC TGGATCGTCA GGGTCAACTT CTGTGATGGT	7200
TGTAGCGATT GGTTTTCCAC AATCCAAGTC TTCTGATTCTG ATTGGTTTGTG GTTTTTTCAA	7260
TTTCGAAACG ACTCCTACGT ATTTAACAAA GTTATCTAAG CAAGTTTCAA GGAATTTAAC	7320
AGTGCCTTCG TTGGTGATAT TTCCGTTGTT ATCAAAAGCT TCCTTAGCTT TACCAAGAAG	7380
GAATTCGTTA CCTGGAAGCG TGTAGGCATT AACACCTGGA GCATCAAGGA TTTTACGAAG	7440
GTGAACTTGA GCACGTGATG TTCCTTGGTC ATAGTATGAT GCACCCACAA TCATAACAGG	7500
CTTGTTTTCA AATGGATGAA CTTCTGATGA AAGCCATTCA AGTACAGATT TGAGTGAAGC	7560
TGAGATAGTG TGGTTATGCT CAGGAGTAGC AATGATAACA CCATCTGCAC GAGTAATTTT	7620
GTTATATAAA TAACGTAATT GGAAACTTTC ATCCCATTTT TCATCTTGGT TAAACATTGG	7680
AACTTCGTCA ATTTCAAGAA CTTCTAATTC AAATTGAGT TTGAAGTAGC GACGGATAAA	7740
TTCCAAGAGC TTACGGTTAT ATGATTGATC GTAGTTTGAT CCAACAAGTC CAACAAATTT	7800
CATTCTTTTT GGTCTCCTAT CTTACAAATT TTCCCAGTCA AAGTCTTCAG CATCTTTGCG	7860
AAGTAATTCT TGTGCATTAC GTAATTTTTC TGTGATTTTT ACAAAGATAC GGAAGTCATC	7920
AAAGATGGCA TCCAATTCTT TGATAACATC AAGGTCAACC AAGTCGCCAC TTGGGTAAA	7980
TGCTTGAAGA GAGTGTGAGA GCAAGAAATC ATCTGGAAGA ACATTTGCCCT TGATTTCAGG	8040
AGCATTC AAG ATTTGACGAA GTTGCAATTG GGCACGAGAT GAACCAAGCG TACCGTAAGA	8100
AGCACCTGTA ATCATGATTG GTTTGTTCAA AAGTGGGTAA ATACCATAAG ACAACCAAGC	8160
AAGAGCGCTC ATCAAAACAG CTGGAATAGA GTGATCATAC TCAGGAGTAC CGATAATAAC	8220
GCCATCTGCC TCTTCGATTT TAGCAGCAAT TTCCAATATT TCAGCAGGTA CTTGCTTGTC	8280
AGCTGGTTTG TTGAAGACAG GAATGGCCCTT GATTTC AACA AGTTCAATTT CAGCTTTGTC	8340
AGTAAAGTGT TTTTGCATGT ATTGAAGCAA TTGACGGTTT GTAGAACGTT TTGAATTTGT	8400
TCCAACAATA GCAATAAGTT TTAACATGAG ATTTCTTTTC TCTTTTACA TAATACAATT	8460
TTAAAATTC ATTGAAACAG TTGTCTCTAT AGAGTAGGAA TTCCTGAAGA ACAGCTTAGG	8520
TGGCCTTCTT TATCGATGAG GATGACTTCG ATGCCCTCCA AACTTTCGAC TTGCCAGAGG	8580
ATAGAAGCAG GTCTTTCTCC AAAGAGTCGA GTCGTCCAGA TTTCGCCATC GACTGATTTA	8640
TCAGAGATGA TTGTTAGACT CGCTAGTTCC GTTTCAACAG GATATCCTGT TTGACTGTCA	8700

509

AAAATGTGAT	GGTAATCTTG	TCCATCGACG	GTCAAGTGAC	G TTCATAAAT	GCCTGAAGTC	8760
ACGACAGATT	TATTGACAAC	AGGGATGGTC	ATTAAATGAT	T TCCCTAGG	ATTGGCTGGG	8820
TCTTGAATCC	CGATTGCCA	TGGGTATCC	CCTCTGCCT	GATTTTTC	AATGGTCAGG	8880
ATATTCCCTC	CCAGATTGAT	CAAGGCAGAA	GTCAACCCCT	CTTTCCTAAG	AAATTGGGCA	8940
ACCTTATCCG	CACTGTATCC	TTTGGCTAAA	CAACCTAGAT	CGATCTTCAT	TCCTTTCTGT	9000
TTTAAAAACA	CAGTAGAAGT	AGAAGAATCT	AACCTCGATAC	CATGAGGATT	GATTAGAGGC	9060
AGCACCGATT	CAATTCTTG	AGGCTGGGCG	ACCTTGGCAT	CTGAAAAACC	GATACGCCAG	9120
GTTTGAATTA	AGGGACCAAT	GCTGATATTG	AGGTGGCTAG	AGAGCGCTAG	GCTATGCTCT	9180
AACCCAAGTG	AAATCAGCTC	AAACAGGTCT	GGATGAACCG	TGACGGGGGC	TATTCCTGCT	9240
TGATAATGA	TTTCCATCAA	CTCAGATTCT	TGACTATTGG	CGTTGAAGCG	GTATTCAAGT	9300
TCTTTGAGCA	AGTCAAAGGA	TTTTTGGAGA	AAGATATCGG	CTTGCTCATC	CACTAATGAA	9360
ATAGTGATAG	TAGTCCCAT	TAGCCGTTCA	GAATGTGAAC	GAAGAGTCAA	GCTACCAACT	9420
CCTTCTCTT	ATAGAAAATA	AGTTGTAATA	TCAAATAATC	ATCTAAATG	AAGCCCTTAC	9480
ATTTCATTTT	CATGTTATTA	TAATACCATA	AAGTTAGAAT	TTTCACAAAC	AAAATTGGGA	9540
AAAAGTCAAG	AAATATGCTC	ATAAAATTCA	TCAGGCTTGA	AAACAGGATA	AATGGGGAAT	9600
TATTTTGTAT	AAAAAATGCT	GAAATAATAG	TACCCCTT	GTAACGCTA	ACGGTAAATG	9660
GTATACTAGT	AAGGTAAAT	TAGAATGAAG	GCAGGAAAT	TTTATGAGTA	AAATCGTTGT	9720
AGTCGGTGCT	AACCACGCTG	GTACAGCATG	TATCAATACC	ATGTTGGATA	ATTTTGGA	9780
TGAGAACGAA	ATTGTTGTAT	TTGACCAAAA	CTCTAACATC	TCTTTCCTAG	GATGTGGAAT	9840
GGCTCTTTGG	ATTGGTGAAC	AAATTGACGG	TGCTGAAGGC	TTGTTCTATT	CTGATAAAGA	9900
AAAATTGGAA	GCTAAAGGTG	CTAAAGTTTA	CATGAACTCA	CCTGTTCTTT	CAATCGACTA	9960
TGATAACAAA	GTAGTTACAG	CGGAAGTTGA	AGGAAAAGAG	CACAAAGAAT	CATACGAAPA	10020
ATTGATTTTC	GCTACAGGCT	CTACACCAAT	CTTGCCACCA	ATCGAAGGTG	TTGAAATTGT	10080
TAAAGGAAAC	CGCGAATTTA	AAGCAACTCT	TGAAAACGTA	CAATTTCGTGA	AATTGTACCA	10140
AAATGCTGAA	GAAGTTATCA	ATAAACTTTC	TGACAAGAGC	CAACACCTCG	ACCGTATCGC	10200
CGTTGTTGGT	GGTGGTTACA	TCGGTGTGTA	ACTTGCTGAA	GCCTTTGAAC	GTCTTGGA	10260
AGAAGTTGTC	CTTGTTGATA	TCGTTGATAC	TGTCCTGAAC	GGTTACTATG	ACAAAGACTT	10320
CACACAAATG	ATGGCGAAGA	ACTTGGAAGA	TCACAACATC	CGCTTGGCTC	TAGGTCAAAC	10380
TGTTAAAGCA	ATCGAAGGTG	ACGGTAAACT	TGAACGCTTG	ATTACTGACA	AAGAAAGCTT	10440

510

TGACGTGGAT ATGGTTATCC TTGCAGTTGG TTTCCGTCCA AACACAGCCC TTGCAGGTGG	10500
TAAGATCGAA CTCTTCCGCA ACGGTGCCTT CCTTG TAGAC AAGAAACAAG AAACATCTAT	10560
CCCAGACGTT TACGCTGTG GTGACTGTGC GACTGTTTAT GACAATGCTC GTAAAGATAC	10620
AAGCTATATC GCTCTTGCTT CAAATGCTGT GCGCACTGGT AACGTTGGT	10669

(2) INFORMATION FOR SEQ ID NO: 58:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 7542 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: double
 - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 58:

CGCGCTAATA GATACTTTAT GATAGAATAA AGAACAAGAT TGACAAGTAA GAGGAAACAT	60
TATGCAAAAT CAAACACTCA TGCAATACTT TGAATGGTAT CTGCCCCACG ACGGTCAACA	120
CTGGACGCGT CTGGCTGAAA ATGCTCCACA CCTAGCTCAT CTGGGGATCA GTCACGCTCTG	180
GATGCCACCA GCCTTCAAGG CAACCAACGA AAAAGATGTC GGCTATGGGG TCTATGACTT	240
ATTTGACTTA GGAGAGTTCA ACCAAAAAGG GACTGTCCGC ACCAAGTATG GTTTCAAAGA	300
AGACTATCTT CAAGCCATTC AAGCCCTTAA AGCACAGGGA ATTCAACCTA TGGCCGATGT	360
AGTTCTCAAC CACAAGGCTG CTGCCGATCA CAGGGAAGCC TTTCAGGTTA TCGAAGTTGA	420
TCCTGTAGAC CGTACAGTTG AACTTGGAGA ACCCTTCACC ATCAATGGCT GGA CTAGTTT	480
TACCTTCGAT GGTCCGCAAG ATACCTATAA TGGCTTCCAC TGGCATTGGT ACCACTTCAC	540
CGGTACAGAC TACGATGCCA AACGCAGTAA ATCTGGGATT TATCTGATCC AAGGGGACAA	600
CAAGGGCTGG GCCAACGAGG AATTGGTCGA TAACGAAAAC GGAAACTACG ACTACCTCAT	660
GTATGCCGAC CTAGACTTTA AACATCCTGA AGTCATCCAA AACATCTATG ACTGGGCTGA	720
TTGGTTCATG GAAACGACTG GTGTAGCTGG TTTCCGTTTG GATGCCGTTA ACCATATTGA	780
CTCTTCTTTT ATGCGCAACT TCATCCGCGA TATGAAGGAA AAATACGGTG ACGATTTCTA	840
TGTTTTTGGT GAATTTTGGA ACCCAGACAA GGAAGCCAAT CTGGACTATC TCGAAAAAAC	900
GGAAGAACAC TTTGACCTTG TCGATGTTCTG TCCTCCACCAG AATCTCTTTG AAGCCAGTCA	960
AGCTGGCGCA AACTATGACC TPCGTGGCAT TTTCACAGAT AGCCTGGTTG AACTCAAGCC	1020
TGACAAGGCT GTGACTTTTG TCGACAACCA CGATACCCAA CGAGGACAAG CCCTTGAGTC	1080
TACCGTTGAA GAATGGTTCA AGCCAGCAGC CTATGCCCTC ATTTTGTTAC GCCAAGACGG	1140
CCTTCCATGT GTCTTTTACG GAGACTACTA TGGGATTTCA GGGCAGTATG CTCAAGAAGA	1200

511

TTTCAAAGAA ATCCTTGACC GCCTCCTAGC CATCCGAAAA GATTGCGCCT ATGGAGAACA	1260
AAATGACTAC TTTGACCATG CTAACGTAT CGGTTGGGTA CGTTCAGGTG CTGAAAATCA	1320
ATCCCCAATC GCAGTCCTTA TCTCAAATGA CCAAGAAAAC AGCAAGTCAA TGTTCGTCGG	1380
TCAAGAATGG ACTAATCAAA CCTTTGTAGA TTTACTTGGT AACCACCAAG GTCAAGTTAC	1440
AATTGATGAG GAAGGTTATG GACAATTCCC TGTCTCAGCT AGATCCGTAA GTGTCTGGGC	1500
AGTCAATACC ATCTAATAGC TCATAATAAC CAAGCTAGGT CCAAGCGGAT TTGGCTTTT	1560
TGTATTACAA AAAAGACCTA CCCAAATGGA TAGATCTTTA CTTGATTACA ATTTACCTGC	1620
TACTGCATCC AACAAATCTT GGATCTTAGG TTGGTTGCTT CCTCCTGCCA TGGCCATATC	1680
TGGTTTACCA CCACCACGTC CATCGATGAT TGGTGCTAAT TCTTTGACAA GGTTCCTGTC	1740
ATGAAGGTCT TTTGTCTTGC TTGCTACAAG GACATTGACT TTGTCACCGA TAGCGGCAAC	1800
TAGGACAAGA AGATCAGAGT AGTCTTTTTC TTTCCAGTTA TCTGCAAAAG TACGAAGGGC	1860
ACCGGCATCG GATACAGACA CTTGACTAGC AATGTAACGA TGACCGTTGA CTTCCCTAAC	1920
ATCTTTGAAG ATATCGCCTG CGGCTGCAGC TGCGGCTTTT TCTTTCAACT CAGCATTTTC	1980
TTTTTGAAGT TGACGAAGTT GTTCTTGAAG TCCTTCTACC TTGTGAGGTA CTTCTCTGAC	2040
TTGAGGTGCT TTCAAGGTTG CTCGATAGC TTTAAGAGCA TCCTCTTGTT CACGATAGGC	2100
TTCAAAGGCT TCCTTACCAG TCACTGCCAA GATACGGCGA GTTCTGTAAC CGATTCTTTC	2160
TTCTTTGACA ATTTTGAAGA GACCAATCTC AGAAGTGTG TCAACATGAG TACCACCACA	2220
AAGTTCAATA GAGTAGTCAC CGATAGTCAC GACACGAACT TCCTTGCCGT ATTTCTCACC	2280
AAAGAGGGCC ATAGCTCCCA TTTCTTTAGC AGTGTCAATA TCCGTTTCAA CTGTCTTCAC	2340
TTCAAGTGCT TCCCAAATTT TCTCGTTAAC TTGCTGTTC ATCGCACGAA GTTCCTCAGC	2400
AGTTACTGCT TGGAAGTGGG TAAAGTCAAA GCGAAGGAAT TCAACTTCGT TAAGAGATCC	2460
TGCCTGTGTT GCGTGGTTTC CAAGGATATT GTGAAGGGCA GCGTGAAGCA AATGAGTCGC	2520
AGTGTGTTTT TTCATGACAC GGTGACGGCG ATTGCTATCA ATTGCCAAGG TATATCTTG	2580
GTTCAGGCA AGCGGTGCAA GGACTTCAAC TGTATGAAGG GCTTGACCAT TTGGGGCTTT	2640
CTGAACATTG GTCACAGTAG CCACAACCTT ACCTGACTCA TCCAAGATTT GTCCGTAGTC	2700
AGCTACCTGT CCACCCATTT CAGCATAAAA TGACGTTTCC GCAAAGATAA GAGAGGCAGT	2760
TCCTTCTGAA ACAGCTCCTA CTTCTGCATT GTCAGCAACG ATAGCTACCA ATTTAGAAGA	2820
CAATTGGCTA GCATTGTAGT TGAAGACACT TTCTACAGTG ATGTTTTGAA GAGTTTCATT	2880
TTGCATACCC ATTGAGCCAC CCTTGACAGC TGACGCACGC GCGGTTCTT GCTGTTCTTT	2940

512

CATGGCTGCT TCAAAACCTT CACGGTCTAC AGTCATACCA GCTTCTTCAG CGATTTCTTC	3000
AGTCAATTCA ACTGGGAACC CATAAGTATC ATAGAGTTTG AAGACATCTG AACCAGCGAT	3060
AACAGATTGA CCTTTTCTT TCAAGTCTGC TACAATGCCT TGGGCAAAGT GTTGACCTGA	3120
GTGAAGGGTA CGGGCAAATG ATTCTTCTTC GCTCTTAACG ATTTTCTCAA TAAAGTCACG	3180
TTTCTCAAGC ACTTCTGGGT AGTAGCTTTC CATGATTTT CCAACAGTTG GAACCAATTT	3240
GTAAAGGAAA GGCTCGTTGA TACCCAATTT TTGACCATGC ATAGAAGCAC GACGGAGAAG	3300
ACGACGAAGA ACATAACCAC GACCTTCATT TCCTGGAAGG GCACCATCAC CGATAGCAAA	3360
TGAAAGAGAA CGAATGTGGT CTGCGATAAC CTTGAAGCTC ATGTTGTGCG CATCTTGGTC	3420
ATAAACCTTA CCAGACAATT TCTCGACTTC ACGGATAATC GGCATGAAGA GGTCCGTTTC	3480
AAAGTTGGTC TTAGCCCCCTT GGATAACGGC CACCAAACGC TCCAAACCAG CGCCCGTATC	3540
AATGTTCTTA TGTGGCAATT CCTTGTATTC GCTACGAGGA ACAGCAGGGT CTGCGTTAAA	3600
TTGTGACAAA ACGATGTTCC AGATTTC AATTAACGGTCG TTTTCAATAT CTTCTGCAAG	3660
CAGGCGAAGA CCGATATTTT CTGGGTCAA GGCTTCCCCA CGGTCAAAGA AGATTTCTGT	3720
ATCTGGTCCA GAAGTCCCG CACCGATTTC CCAGAAGTTG TCCTCAATTG GAATCAAGTG	3780
ACTTGGATCC ACTCCACTT CAATCCAGCG GTTGTAAGAA TCTTTATCGT CTGGATAGTA	3840
GGTCATGTAA AGTTTTCAG CAGGGAAATC AAACCATTCA GGGCTTGTC AAAGCTCATA	3900
AGCCCAAGTG ATAGCTTCGT CACGGAAGTA ATCCCCGATA GAGAAGTTCC CCAGCATTTT	3960
AAACATGGTA TGGTGACGCG CGGTCTTCCC TACGTTTTCG ATGTCGTTGG TACGGATAGC	4020
CTTTTGGGCA TTGGTAATAC GTGGATTTT AGGGATAATG GTCCCGTCAA AGTATTTCTT	4080
AAGGGTTGCT ACCCCAGAGT TGATCCACAA AAGAGTTGGG TCATTTACAG GAACCAAAT	4140
TACTGATGGT TCTACTGAGT GACCTTGGT CGCCAGAAA TCAAGCCACA TTTGGCGTAC	4200
TTGTGCACTA GATAGTTGTT TCATATTGTC TCCTTATTCA CTTGTTTAAT GTGATTGGCT	4260
TTCCAGCATT TCCACATAGT CAATCGCGAC ACAGAGGGA ATGACTAGGT CTGCATAAGC	4320
GTCTTCAAGA ACCGTTACGG TATAGGTAGA AGTCAGATGG AAGAGTTCCT TCTTAATTT	4380
CGCAATCAAC TGATCGCGAT CATCCAGCAA TTTGAAATTC AAATCCCAGA TATTGCCCTC	4440
GATACGAAGA CCTAGATTAT CAAACTCATA CTTATCTCGC CAGAAGGTCA ACTTCTTACG	4500
AATGACAAAA CTCGAGCCAT CCCGAAGCTG AATTTCAAAA CGAGGAAGCA AGGTCAAGAT	4560
TTCTTTACTA ATCTCACTGA CTTGTTTACC AGCCGCATCA TAGATGGTAA AGGTTTTAGG	4620
AATCTTAAAA AATGATCCCT CCACCTGATA GGCAATTTCT CCCCTGTCAT CCTTGATAGC	4680
GAAGCGTTCG CCTCCAAGAC GAAACTTTTG TTTGACAAGA AATGTTTCA TCAACACCTC	4740

513

CAAAAATCAA AAGACAAGCT CATATCACGA AGGGCGAAAA ACCGCGGTAC CACCTTCATT	4800
CAATGAAC TT GTCATTCTCT TGTCTTATG CAATTGTATG ATTGAGTAGC ATGACTTCCT	4860
AGCTTAGATG GCTCGCAGCA CCGCCATTTC TCTGGACTAA GACAAGTGAA AATCAATTCT	4920
CAACTTTCCTT ATTATAACGT TTTTAAAGC TTGCGTCAAC TGGAAATGAT CTCCGTTGAA	4980
TTAGACCAAT TCCCTACATC TCTGATTACT TTTTCAGGAT ATATTTTTTC TTACTGCCAT	5040
TTTTCTTTTT ATCCCAAATT TTCATATTAC TAAACACAGC TACTAGAATA TTTCCAAATA	5100
TAAAGTGCC TATCACCAA TATATGGACT CAGTTGTTAG GTATTGTGCA TCCAAGCCAT	5160
CCTTTAAATG GAATAGTATA GCAGTTTGGT TAACAATCAT AAAGGTGGC CAGAAACTTT	5220
TTTTGAAAAA AGTAGACATT TTCATTATTT GTTGCCGCTT TCTGTAAGGT TAATACTCAA	5280
TAAAAATCAA AAAGCAAAC AGGAAGCTAG CCTCAAGCTG TACTTGAGTA CGGCAAGGCA	5340
ACGCTGACGT GGTTTGAAGA GTATAGGCTT AGTATACTAC TAGGCAAGCA AATAACAAA	5400
TAAACAATA GAATAGAAAA AGATAGGGCT CTA AAAACTG ACTTCTATTC CTTAAAAACG	5460
AACCAGCTTG ACTGATTCTT CTCTTACGT TTATCTCCTA CTTCGATAC ATTTTAACT	5520
GTAGGAAGAG GTCGCTATAT TTCCCTGTCC ATTTATGGTC AAATTTCTCA TAAACTTCTA	5580
GGTGTTTCAT GGTTCACAA TCGGGATAGA AGGCCTTATC TTCTTTGTT TCCTCTGGGA	5640
GCAATTCCTT CGCTGGTAGG TTTGGTGTG AATAGCCGAC ATACTCCGCA TTTTGGAGAG	5700
CATTTTCAGG TTTCAACATA AAGTTGATAA AGGCATAGGC TGAGTTTGG TTTTAACTG	5760
TTTTGGGAAT GACCATATTG TCAAACAAA GATTGCTGGC CTCTGTCCGT ACCACATAAC	5820
GTAGATTTTC ATTTTTTCT AACATTTGGC TGGCTTCACC AGAGAAGGTC ACGCCGATTG	5880
CAACATTATT CTGAATCATA TAGCCCTTCA TCTCGTCCGC AACGATAGCC TTGATATTTG	5940
GAGTCAGTTT GTAGAGCTTA TCCACTGTCT CTTCCTCACTG CTGCAGATCC TTGGAGTTGA	6000
GGCTGTAGCC GAGGGAATTG AGTCCTAGTC CCAGCACCTC ACGCGCCCA TCAAAGAGCA	6060
TGATAGAATT CTTATACTCC GGCTTCCAAA GGTATCCCA ATGCTCAGGC GCTTCATCTA	6120
CCATGGTTTC GTTGTAGACA ATTCTTAAGG TTCCCAGAA GTAAGGGATG GAGAATTAT	6180
TACCTGGGTC AAAGGACTGG TTGAGAACT CTGGTCCGAT ATTTTCGATT CCTTCAATT	6240
TTGAATAATC AAGCGGAACC AAGAGGTCTT CGTCCTTCAT CTGTTAATC ATGTATTCAC	6300
TTGGAATGGC AATATCGTAG GTCGTCCAC CCTGCTTTAT CTTAGTGAC ATGGCTTCGT	6360
TGGAGTCAA AGTCTCGTAC TGAAC TTGAA TTCCTGTTT TCTGTAAAC TGAGTCAAGA	6420
GTTCAGGATC GATATAGTCT CCCAGTTAT AGATAACCAA TTTTGTGACTA TCTCGACTAT	6480

514

TGATTTTACT ATCTAAATGA GTCGCAATTC CCCACAAGAC AAGGATAATC GCTGCAATTC	6540
CTGCTAAAA TGAATAGATT TTTTTCATGC TTGCTCCTCC TTCTCACGAG AGATAAAGTA	6600
ATAACCTACA ACTAGGATAA TACTAAAGAG AAAGACTAGA GCAGACAGGG CATTGATTTTC	6660
TAAGGAAATC CCCTTGCGAG CACGAGAGTA AATCTCGACT GATAGGGTTG AAAAGCCATT	6720
TCCTGTTACA AAGAAGGTCA CGGCAAAGTC ATCTAACGAA TAGGTGAAGG CCATGAAATA	6780
ACCAGTAAATG ATAGACGGAG TCAGGTAAGG AAGCATGATT TCCTTGAACA TCTGAAATTG	6840
ACTAGCTCCC AAGTCATAGG CCGCATGAAT CATGTCGCCA TTCATTTCCT TGAGTCGAGG	6900
CAAGACCATC AAGACCACGA TAGGAATGGA GAAGGCCACG TGACTAGATA GAACGGTCAA	6960
AAAGCCAAGT GAAAACTTGA GTTGGGTAAA GAGAATCAAG AAGCTAGCAC CAATCATAAC	7020
GTCAGGCGCA ACCATGAGGA TATTATTGAG TGATAGAAAG GCTTCTTGGT ATTTCTTACG	7080
AGACTGGTAG ATGTAAATGG CACCAAAAGT CCCGATAATG GTCGCTATCA AGGCTGATAG	7140
GAAGGCCAAG AAAAAATGTCT GAGCCAAAAT CAGCATGAGT CTCCCATCTC CAAACATGGT	7200
TTCAAAGTGA GTCCAGCTAA AACCTGTAAA GCTATTGATA TCATCACCAG CATTAAGGC	7260
ATAGCCAATC AAGTAAAAGA TAGGCAGGTA GAGGACCAGA AAGACCACTC CCAGATAAAG	7320
GTTGGCAAAT TTTTTCATCG TTCTCTCCTT TCCTTAGTCA CCCACATGGT GATGAACATG	7380
GTCAGGATGA GAATCACACC GATGGTTGAA CCCATACCAT AGTTGTCATT GGTTAGAAAA	7440
TTCTGCTCAA TAGCCGTCCT CAAGGTGATA ACGCGTTCCC ACCAATCAAA CGGGTCAGCA	7500
TGAAGAGACT CAAACTTGGG ATAAAGACCG ACTGAACCCC GG	7542

(2) INFORMATION FOR SEQ ID NO: 59:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 9223 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: double
 - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 59:

AAAACCAAAT TCCGGTATTT TAACCTATGC TGTAATATACC ATGAAGTCTG TCATGACAGA	60
TCAGGTCTAT AACATTAAAG TTGAGACAGA AAATGGAAAT TATGTTGGTG AAGCTAGCCA	120
TGTTTTGGTC CTTTGGACAA ATTACTTCGC TGATAAGAAA ATCTTTGAAG AAAACAAGGA	180
CGGCTATGCC AACATTTTGA TTCTGAAAGA TGCCTCTATA TTCTCCAAAT TATCCGTCAT	240
TCCTGATTTA TTAAAAGGGG ATGTTGTCGC AAATGATAAT ATCGAGTATA TCAAAGCGCG	300
TAATATTAAA ATCTCTTCAG ATAGTGAATT GGAGTCAGAT GTTGACGGAG ATAAATCAGA	360

515

TAACCTACCT GTAGAAATCA AAGTCCTAGC TCAGCGAGTA GAAGTATTTT CAAAACCGAA	420
AGAGGATTAG TATATAGAGA AAGCCTTTTT TAAGGCTTTT TGTATACTTT AAAAGATAGT	480
TCCTTTAACA ACGGACATTC CTTGCAAATA GTTTTACAAA AATAGTATAC TGGATTTCATT	540
GAGTTTGAAA ACGTTTGCGT AAAATTTGAA TGAATACTTT AGGAGACAAA TTGATGGAAT	600
TGAGTGCTAT TTACCATAGG CCTGAGTCGG AGTATGACTA TCTTTATAAG GATAAGAAAC	660
TCCATATTCG AATTCGAACT AAGAAAGGGG ACATTGAAAG CATCAACTTG CACTATGGGG	720
ACCCCTTTTAT CTTTATCGAG GAGTTTTATC AGGATACAAA AGAAATGGTC AAGATAACTT	780
CTGGTACCTT ATTTGACCAT TGGCAGGTTG AAGTGTCAGT TGACTTTGCA CGTATCCAGT	840
ATCTCTTTGA GCTCAGAGAT ACAGAAGGTC AAAATATTTT GTATGCCGAT AAAGGGTGTTG	900
TGGAATAATC TCTAGAAAAT CTTCATGCAA TTGGGAATGG ATTTAAGTTG CCTTAGCTTC	960
ATGAGATTGA TGCCTGCAAG gTTCCTGACT GGGTTTCAAA TACGGTATGG TATCAGATAT	1020
TTCTTGAAAG ATTTGCCAAT GGCAATGCTC TATTAAACCC AGAAGGGACT TTAGACTGGG	1080
ATTCATCTGT CACACCTAAG AGCGATGATT TCTTTGGTGG TGATTTACAG GGGATTATTG	1140
ATCATATGAA TTACTTGCAA GACTTGGGTA TTACTGGACT ATATCTTTGT CCCATCTTTG	1200
AATCTACAAG CAATCACAAG TACAATACGA CAGATTACTT TGAATTTGAC CGTCATTTTG	1260
GAGACAAGGA GACCTTTCGG GAACTGGTGG ATCAAGCGCA TCATCGTGGC ATGAAAGTCA	1320
TGCTGGATGC GGTATTTAAT CATATTGGTT CGCAATCTCT TCAATGGAAA AATGTCGTCA	1380
AAAATGGTGA ACAGTCTGCT TATAAGGATT GGTTCATAT TCAACAATTC CCAGTGACAA	1440
CTGAAAAGCT AGTTAATAAG AGAGACTTAC CCTATCATGT TTTTGGTTTC GAGGACTATA	1500
TGCCTAAGCT AAATACAGCC AATCCAGAGG TCAAGAATTA TCTTTTAAAG GTTGCGACTT	1560
ATTGGATTGA AGAGTTTAAT ATCGATGCTT GGCCTTTGGA TGTGGCTAAT GAGATTGACC	1620
ATCAGTTCTG GAAGGATTTT CGTAAGGCAG TTTTAGCTAA AAATCCTGAT CTTTATATCC	1680
TAGGAGAAGT CTGGCATACT TCTCAGCCTT GGCTAAATGG AGATGAGTTC CATGCCGTCA	1740
TGAATTATCC TTATCTGAT AGTATCAAGG ACTATTTCTT ACGAGGAATT AAGAAGACAG	1800
ACCAGTTCAT CGATGAAATC AATGGAGAGT CTATGTATTA CAAGCAGCAG ATTCAGAGG	1860
TCATGTTTAA TCTCTTGGAT TCACATGATA CAGAGCGAAT CCTGTGGACG GCCAATGAAG	1920
ATGTTCAACT GGTAAATCA GCCTTAGCCT TTCTCTTTT AAAAAAGGA ACACCGTGCA	1980
TTTATTACGG AACCGAGCTA GCCTTGACTG GAGGACCAGA TCCAGATTGT CGTCGTTGTA	2040
TGCCTTGGGA ACGTGATCA AGTGACAATG ATATGCTGAA CTTTATGAAG AGGCTGATTA	2100

516

AAATTCGGAA ATACGCGTCA GTAATCATTT CGCATGGCAA GTATAGCCTT CAAGAAATCA	2160
ACTCTGATCT AGTAGCTCTG GAATGGAAAT ACGAAGGACG GATCCTCAAA GCAATATTC	2220
ACCAATCAAC AGAAGATTAT CTTTGTAGAGA AAGAACCAGT AGCACTAGCA AGCAATTGCC	2280
AAGAATTGGA TAATCAGCTT GTCATCTCTC CAGATGGATT TATGATTTTC TAAAACTAG	2340
TTGATGAAGA TTATGGTACA TTTCATACCT TATATAGTAT AATAAGGCTA GTTACTAAAC	2400
TTGTAAAGGA GAACTTAAAT GAATTGTAGA GGACATGAAA CAAGACAAAG AATTGTTAGA	2460
GATTTTGAAG TTCAGCCTAA AGCACATATT AAGCTGTTAG CAAATCAACA AAAACATAGT	2520
GATGCAGGAG CAACTATTGA ACATGAATAT TATGTATTTA TCGCTGAGAG TAAAAATGAT	2580
GGCAAGAAGG AAGTTATTCA GTGTTGCATG GGTGCGGCAA GGGATTTTTT AGAACTAATT	2640
AATCACAAGG GGCTACCTCT TTTAATCCG CTTGTAGGTG ATTCTCATGT AAATAATAGA	2700
CAAGAATATG ACAATACAGG GAGTGGAAAT TTATAACCTG AAAAGTGGAA TGAACTGCA	2760
AAGCAGCTTT ATAATGCTAT AATGTGGTTG ATTATTTTAT GGAATGCTAA GCCGGATACA	2820
CCTTTATTTA ATTTTAAAGA CGAAGTAATT AAGTATAAAA CATATGAGCC TTTTGAAAGC	2880
AGTATAAAAA GAGTAAATAC TACTATAAAG AATGGTAGTA AAGGGAAAAC TCTGACTGAG	2940
ATGATTAATG GCTACAGAGC GGATAACGAT ATTAGAGATG AAATTTGTAA CTTTAATATT	3000
CTGAAAAATA AAATTCGTGA TATGAAAAAC CAACAAGGAA ATACAATGGA ATCTTACTTT	3060
TAGTTATTGT TGAATTTTGG GTATTCTATA AAATATCCTA ATTGAGATTT AAATAGTAGA	3120
CTATACAATA TAGTTAAAAT ATCAGTAAAA ACAACACTTT ATTGAGGTAT TGGATACGCT	3180
TTGCTAATAG CCTAATAATC ACATGTGGAG TGTGCTACA ACGAAAAAGG TGATAATCCT	3240
TGATTTCAAG CTATTTTATA AGCATTTTGT CTTGTAGAT AAAGGCAATT TTGACAATAA	3300
AAATCCTAAA AGGTGAATCG TTATAGATGT ATTGTAGAT ATCGTTTGCG CATCGAAAAA	3360
ATTAATACAA GAATAAATAT TTATAGCTCT TTAGGTGACT TTTATAGAAG TAAAGTTAG	3420
GATAGAAAAA CAAGAAATAA CGCACCATTT TTGGTGCGTT ATGCTTTTTT ATGCTATAAT	3480
GGATTTATAA AAATAAAGGA GTTTGCTATG ATTGGAAGA ACATAAAATC CTTGCGTAAA	3540
ACACATGACT TAACACAAC TGAATTTGCA CGGATTGTAG GTATTTACG AAATAGTCTG	3600
AGTCGTTATG AAAATGGAAC GAGTTCAGTC TCTACCGAAT TAATAGACAT CATTTGTCAG	3660
AAGTTTAATG TATCTTATGT CGATATTGTA GGAGAAGATA AAATGCTCAA TCCTGTTGAA	3720
GATTATGAAT TGACTTTAAA AATTGAAATT GTGAAAGAAA GAGGTGCTAA TCTATTATCT	3780
CGACTCTATC GTTATCAAGA TAGTCAGGGA ATTAGCATTG ATGATGAGTC TAATCCTTGG	3840
ATTTTAATGA GTGATGATCT ATCTGATTTG ATTCATACGA ATATCTATCT AGTAGAACT	3900

517

TTTGATGAAA TAGAGAGATA TAGTGGCTAT TTGGATGGAA TTGAACGTAT GTTAGAGATA	3960
TCTGAAAAAC GGATGGTGGC CTAATGGAAA TCCAAGATTA TACTGATAGT GAATTCAAAC	4020
ATGCTTTAGC AAGGAATCTT CGTTCACTGA CAAGAGGAAA AAAGTCCAGT AAGCAACCTA	4080
TAGCGATTTT GCTTGGAGGG CAAAGTGGTG CCGGTAAGAC TACAATTCAT CGTATTAAAC	4140
AGAAAGAATT TCAAGGAAAT ATTGTTATCA TAGATGGTGA TAGTTTTCGT TCTCAGCATC	4200
CACACTATTT AGAAGTGCAG CAAGAATATG GCAAAGACAG TGTAGAATAT ACCAAAGATT	4260
TTGCAGGAAA AATGGTAGAG TCTTTAGTAA CAAAATTGAG TAGTTTGAGA TACAATCTTT	4320
TGATAGAGGG AACTTTACGA ACAGTTGATG TTCCAAAGAA AACAGCACAA CTCTTGAAAA	4380
ATAAGGGATA TGAAGTACAA TTGGCCTTAA TTGCGACAAA GCCTGAATTG TCGTATCTAA	4440
GTACTCTTAT CCGTTATGAA GAACTGTACA TTATCAATCC AAATCAAGCA CGCGCAACTC	4500
CAAAAGAACA TCATGATTTC ATTGTAAATC ATCTAGTTGA TAACACACGA AAATTGGAAG	4560
AACTAGCTAT CTTTGAAAGA ATTCAAATTT ACCAACGAGA TAGAAGTTGT GTATATGATT	4620
CAAAAGAAAA TACAACCTCA GCAGCAGATG TTCTTCAAGA GTTACTCTTT GGGGAGTGGA	4680
GTCAGGTAGA GAAGGAGATG TTGCAGGTGG GGGAAAAGAG ACTTAATGAA TTACTTGAAA	4740
AATAACAAT TGATATTTTT AGGAGAATAG AAATGAGAGG GTTTAATAAC AAGATAAAGT	4800
CTGTTTATCA AGAACTAACA AATCCAAAG AGAAATTCGG TAGCTTTCAC AAGACTTTAA	4860
TTCATTTGCA TACACCTGTT TCTTATGATT ACAAGCTATT TTCTAATTGG ACTGCAACGA	4920
AATATAGAAA AATTACTCAA CATGAATAT ATGATATATT TTTTGAAAAA AAGAAAAATA	4980
AAGTTGATAA GACAATTTTT TTTAGTAATT TTGATAAGGT TGTTTTTTCT AGTTCAAAAG	5040
AATATATTAG TTTTCTTATG TTAGCAGAGG CAATCATAAA AAATGGAATA GAAATAGTTG	5100
TAGTAACTGA TCATAATACT ACCAAAGGTA TTAAAAAGTT ACAAATGGCA GTCTCAATCA	5160
TAATGAAAAA TTATCCGATT TATGATATAC ATCCTCATAT TTTACATGGA GTAGAAATTA	5220
GTGCAGCAGA TAAATTGCAT ATTGTATGTA TATATGATTA TGAACAAGAA TCATGGGTTA	5280
ATCAATGGTT AAGTGAAAAT ATTATAAGTG AGAAAGATGG AAGTTATCAA CATTCACTGA	5340
CTATAATGAA GGATTTCAT AATCAAAAAA TAGTTAACTA TATTGCTCAT TTCAATAGTT	5400
ATGACATTTT GAAAAAAGGT TCTCACTTAT CAGGTGCATA TAAACGAAAA ATTTTTTCTA	5460
AAGAAAATAC ACGATTTTGG AGTTTAATAT TAACTCGAAA GAATCTTCGC AACAACTTGA	5520
TATTCTCTAT AAAGAAGTTG GTGTATTAAG TTTGGGACAA AAAGTTGTAG CCATGCTTGA	5580
TTTTTTATTA GCATATAGTG ATTATTCTAA AGACTTCAGA CCATTGATTA TTGATCAGCC	5640

518

TGAAGACAAT CTAGACAATC GTTATATTTA CAGGCATTTA GTTCAGCAGT TTAGAGATGT	5700
GAAAGCTCAA CGTCAAATTA TTTTAGCAAC ACATAATGCT ACAATTGTAA CAAATTCCTAT	5760
GACAGATCAA GTTGTATTAT TGGAGTCAGA TGGAGTTAAC GGATGGATTG AATCACAGGG	5820
ATATGTTAGT GAAAAATATA TAAAAATCA TATCATCAAT CAATTAGAGG GAGGAAAAGA	5880
TTCTTCAAG CATAAAATGT CTATATATGA GACGGCTTTA TCAGAGTAGA GTCAGAAAAA	5940
GTAGGTAGA AATTIAGCCT ACTTTTTTCT TTGTCCGACA GGCATAGTGT ACATCTGAGG	6000
TCCAAGTCCT CTGTGGATAT TTGCTGCAGA TGAAACCAAT AGCGACTCCT AAGCCTGAAT	6060
ATCGTGAGGT AGGGGGGATA GGAAGGAATT AGCGAAATCA AGGTTCTACA AACAGAATCG	6120
TGACTTGAAG CCATATATAG CGGATGAGGA ACTCTAAAT CCAAATAGGT GTCGTAACCT	6180
ATATACGTAA ATTACGAGAG TAACTAGGA AAGATGTACG GCTTATTCCG TGAGCGTTTA	6240
GGACGTAGTA CAACGAATCA TGGGAGTCAG CTGAACACAT AGTATTGAAG AAATTTCTGT	6300
AATGGAAATG GAGCGAAGAA GTGAACAATT AAATGAATAC CTCTCTAATT AAATTTGTCA	6360
ATTCTAATTC CTGGTATGAA AAGACAGTA CCTGAAAATG TAAACGATGG GAGCTGATCA	6420
TAAATATAGG ACGGTACATG CAGTGGTGTT AGAGATTAGT CCTTACTTGA TTTGTGATAA	6480
CTTCCCCAAA TTTCTTCTGC TATACTTTTC TCAACTTTTA AAAATCCAAC TAAGAATTTT	6540
ACCTGGGGGT TTGGGGGCGG AGCCTAAGT TATCTTATCG TTAGCTGTCA AAAGTGGTAG	6600
GTTTTGATAG GCTGGCGATA TGATTTTGG GATATTGTGG ACACAATATC TGAGCTCGCA	6660
AAGCCTTACA AGAATGAAAA TCAGTTGTTG GAAAAGTCTA CTGACATTGT ATGGTAGCTC	6720
ACATTGTCAG TACAAGTATT TTGGAAAGGA AGTAGCAGTA TGAAACGAGA TGTGCGTGAT	6780
ATTGCGAAAC AATTTGTTTT AACAGAAGCA GAAGAAAAGC AAATTCCTAGC TTTGATGAGA	6840
GACCGGGGAG AGACTAATTT CTCTGATTTT CTTCGTAAAA GTTACTTTC CTCTGATTTA	6900
CAAAAACAGA TGGAGACATG GTTTGCCCTC TGGCAATCCC AAAAATAGA ACAAATCAGT	6960
CGTGACGTTT ATGAAGTTTT AATCTTGGCA CAGTCAGAAC GTCAAGTCAC CCAAGAGCAT	7020
GTATCTATTC TCTTAACGTG CGTGCAGGAA TTGATTCAAG AGGTTGCAAA CACCATACCC	7080
CTCAGTAAAG AATTTCTGTA GAAGTACATG AGGTAAGCAC ATGGAACATC GTTACCGAAC	7140
CAATCTCAAG AAAGTGTTTT TGTCTGATAG TGAGTTGAAC CAACTAAATA TAAATATCGA	7200
TCAAAGTGGT TGTAATCCT TTTCTGAATA TGGGAGACGA ACTCTACTCG ATCCTGGTAT	7260
GAATTTTATC ACGATTGACA CAAACGGTTA CCAAGATTTA GTGTTTGAGT TAAAGAGGAT	7320
TGGCAATAAT ATCAACCAGA TTGCTCGAAG TGTAAATCAA TCTCAGTTAA TTTCTGGTGA	7380
AGAATTGCAG GAGTTGAAAA AAGGAATTGG TGAATTGATA AAAGAAGTTG ATAAGGAATT	7440

519

TAATCTGCAA GCGCAGAAGC TAAAGGAGTT CCATGGTCAT CACTAAACAC TTTGCCATTC	7500
ACGGAAAGAG TTACCGCAGA AAGCTTATCA AGTACATTCT CAATCCTGAG AAAACCAATA	7560
ATCTTGCCTT GGTGTCGGAC TATGGCATGA AGAATTTTCT GGACTTTCCT AGCTATGAGG	7620
AAATGGTGCA GATGTATCAT GAAAAATTTCA TCAGCAACGA TACGCTTTAC GATTTTCGCC	7680
ACGACAGGAT GGAAGAAAAT CAACGAAAAA TACACGCTCA CCACATCATT CAGTCTTTCT	7740
CGCCAGAGGA TCATATCACT CCTGAACAAA TCAATCGGAT AGGTATATGAG ACTGTGAAGG	7800
AATTAAGTGG TGGCAAAATTT CGTTTTATCG TTGCGACCCA TGTGATAAA GACCACCTGC	7860
ACAATCACAT CATTATCAAT TCAGTAGATA GCAATTCTGA CAAAAAGCTC AAGTGGGACT	7920
ACAAGGTGGA GCGAAATCTT CGCATGATTT CTGACCGTTT TTCTAAAATC GCAGGTGCTA	7980
AAATCATTGA GAACCGCTAT TCTCACCAGC GGTATGAAGT CTATCGTAAG ACTAATCACA	8040
AGTATGAACT CAAGCAGCGA CTCTATTTTT TGATGGAACA TTCTAGGGAC TTTGAGGATT	8100
TCAAAAAGAA TGCTCCGCTA CTACATGTGG AGATGGATTT CCGTCACAAG CATGCCACCT	8160
TTTTTATTAC GGACTCAACT ATGAAACAGG TGGTGCCTGG CAAGCAACTC AATCGCAAGC	8220
AGCCTTACAC AGAAGAATTT TTTAAGAACT ACTTTGCCAA AAGAGAAATA GAAAGTCTCA	8280
TGGAATTTTT ATTGCTGAAA GTTGAGAATA TGGATGATTT ACTTCAGAAA GCAAACTTTT	8340
TTGGACTAAC TATCAATCCT AAACAAAAGC ATGTTTCTTT TCAATTGCA GGAGTGGAGG	8400
TAAAGGAGAC AGAGCTAGAC CAGAAAAATC TTTATGATGT AGAGTTTTC CAAGATTATT	8460
TTAAAAATAG AAAAGATTGG CAAGCTCCAG AACTGAGGA TTTCGTTCAA CTTTATCAAG	8520
AAGAAAAGTT ATCCAAAGAA AAAGAACTTC CAAGCGATGA GAAGTTCTGG GAGTCCTATC	8580
AAGAGTTCAA CAGTAACAGA GATGCCGTC ATGAATTTGA GGTGGAGTTG TCACTCAATC	8640
AAATTGAAAA AGTAGTGGAT GATGGAATTT ACGTCAAGGT CAAGTTTGGT ATTCGTCAGG	8700
AGGGACTTAT CTTTGTGCCG AACATGCAGC TTGATATGGA AGAGGATAAG GTGAAGCTTT	8760
TCATCAGGGA AACCAGCTCC TACTATGTCT ACCACAAAGA CGCTGCCGAG AAAAATTGTT	8820
ATATGAAAGG TCGAACCTTA ATTAGACAGT TCAGCTATGA AAATCAAACC ATTCCATTAC	8880
GCAGAAAAGC GACAGTCGAT ATGATTAAAG AGAAGATTGC GGAAGTGGAT GCTTTGATTG	8940
AACTGGAAGT AGAAAATCAA TCTTATGTCA CGATTAAAGA TGAGTTAGTG CATGAAGTAG	9000
CAGCGTCTGA ATTGAGAATC AATGAGTGC AAGAACGAAT GTCAACCTTG AATCAAGTAG	9060
CAGAAATATCT ACTGGCTTCA GTTGAAAGTA AGCAAGAAAT GAAATTAAAT CTTTCAAAC	9120
TGAATATAAC TGAGAAATATC AGTGCTAATA TTGTTGAGAA AAAATTGAAG AGCCTGGGGA	9180

520
ATCAACTGGA ATTGGAAAGG GGCAGGTATG AAAAGATGGT AGT 9223

(2) INFORMATION FOR SEQ ID NO: 60:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 6827 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: double
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 60:

TCTGCTGGCT ACCATCATCT GACTTGGGCA AGACCAAAGT CTTAGTTACA ACTGTATTCT	60
TCTCAGCAAT TTCAATAACT GGCAATGCCG ACTGAAGCGT ATCTTTTCTCT GTTTTTGTAG	120
CTGGTCCAGT TTCTTTTTC TGTCCGCAAC CAACCAGGAC AAAAAGGAAA GCTAGACTAA	180
CAAGAACTAT TTTTTCATT TCTTCTTCT TTCTTTTGA AATTAAAATA GAATAAGACT	240
GGGAAGTGCT CCCAGCCTTG ATGTTTATAG AGCTGCACGC AAACGTGCTT CTGCATTTTC	300
TACATTACGG ACAGAGCGTG GTAGGAAGGC ACGAATATCG TCTTCCTTGT AGCCAACTTG	360
CAGGCGTTTT TCATCTACAA GGATTGGGCT CTTTAAAATT CTCGGTGTTC CCATAATCAG	420
ATTGAGAACT TCATTGACAC TCAAATCTTC AATATCCACT CCAAGGGCTT TGGCATAGCG	480
ATTTTGTAGAC GAAACGATGC TGGCTATTCC GTTATCTGTT TTGGTTAGAA TATCCAGTAA	540
TTCTTCTCTC GTAATTCCTT CTTTACCAAG GTTTTGTCTT TTATAACTTA ACTGGTGGGC	600
ATTGAGCCAG GTTTTTGCTT TTTTACAGCT AGTACAACCT GAGACTGTAT AAATTTTAAT	660
CATGTACCTA CCCCTTTCGC TACATGTAC TATCAGTTTA GTCTATTATA CCATAAAAAA	720
CATCCGACTT GCGACCTATT TTTAATTTTT TTTGACTTTT TTCGTCATTT TCGTACTTTT	780
TTCTTGACAA ACAACTAAAT GACTATCAAC TCTTTTGGAG CTAGGGTCAA TAATTCACAA	840
CCTGTCTCTG TAATCAGGAT ATCATCCTCG ATACGAACGC CATATTTGCC TTCGATATAG	900
ATACCTGGTT CATCGGTCAA GGCCATACCT GTCTTAATAG TTTCTGTAGA AGTCTGACTA	960
AAGTAGGGTT CCTCATGGAT ATCCAGACCA ATACCGTGGC CAATGCCGTG AGTAAAGTAG	1020
TCACCATAAC CTGCCCTCAAT GATAATATCA CGAGGGATTT TGTCAAAGTC ACGGAAACCT	1080
AAGCCTGCCT TAGCTTGGTC AATCAAGGCT TGGTTAGCTT TTAGAACCGT ATTGTAAATC	1140
TCTGCCTGCT CATCGCTAAC ATGCCCTAGA TAGATAGTCC GGGTCATATC ACTGACATAG	1200
TGGTCATAGA GACAGCCGAA GTCCATGGTG ATGGCTTCTC CCAACTCCAC TGTTTGTGC	1260
ATTGGATGGG CATGGGGTTT AGAAGAATTG ATACCGCTAG CTAGGATCGT ATCAAAAGAT	1320
AAGCCAGATG CTCCCAACTC ACGCATGCGG AAATCAAGGA AGTTGGCAAT CTCAATTTC	1380

521

GT'TTTTCCTG GT'TTGATAAA GTCAAGCGCA TCGCGGAAAG CTTGGTCTGA GATAGAACAA	1440
GCCTTGCGAA TCGCTGCAAT CTCTGCCTCA TCCTTAATCA TACGAAGACC TTCCACAAAC	1500
TGAGTTTGTG GAAGCAAGTT CAAACCTGCA AAAGCTGCCT GCATACGGTG G'AA'TAAGAC	1560
ACTGAAATCT CATCTTCAA ACCGATACGA GTCAAGCCCA TGTCTTAAAC AATTCCTGCA	1620
ATGACAGCCA ATTCATCACG ATCAGCCACA ATCTCAAAAC CACTGGTTTC TTGCTTAGCT	1680
GCGATGATAT AGCGAGAGTC TGTCACTAAG ACCTGACGGT CACGACTGAT AAAGACTGTT	1740
CCGTTTGAGC CCCAAAACC AGTCAAATA TAGACGTTTT TAAGATTGTT GATGATGATA	1800
CCATCTAGTT CTTTTTCTTG CATTTTAGCT AGAAATGCTT GTACGCGTTT ATTCAIGATG	1860
TAACTTTCCT TTCAAATAGT GTCCGTGATA GCTGGCTTCG TTGGCAGCTA CTTCITCTGG	1920
AGTTCCTGTT ACGATGATGG TTCCACCACC GACACGCCC TCAGGTCCCA AGTCAATGAT	1980
ATGGTCTGCC GTCTTGATAA CATCCAGATT GTGCTCGATG ACGAGGACTG TATTGCCATC	2040
GTCTACAAAG CGAGCTAAA CCTTGAGCAG GCGAGCAATG TCCTCTGTAT GAAGCCCTGT	2100
CGTCGGCTCA TCCAGAATGT AGAAAGATT TCCTGTCGAT CGTTTGTGGA GTTCGCTAGC	2160
TAACTTCATA CGTTGGGCTT CTCCCCAGA AAGGGTGGTA GCTGGCTGTC CCAAGGTCAC	2220
ATAGCCTAGC CCTACATCCT TGATGGTCTG GAGTTTGCCT TGAATTTTCG GAATGTGTTG	2280
GAAAAAT'CT ACCGCATCGT TGACCGTCAT ATCCAAGACC TGCGAAATAT TCTTTTCCTT	2340
GTAGTGAAC TCTAGGCTTT CACTGTTATA GCGGGTCCG TGGCAAACCT CACAAGCCAC	2400
ATAAACATCT GGCAAGAAGT GCATCTCAAT CTTGATAATC CCGTCACCTG AGCAAGCTTC	2460
ACAGCGACCT CCCTTGACGT TGAAACTGAA GCGCCCCTTC TTGTAGCCTC GAATCTTGGC	2520
TTCATTTGTC TGAGCAAAA GGTCACGTAT ATCGTCAAAA ACTCCTGTAT AGGTAGCTGG	2580
GTTAGACCTC GCGTCCGTC CGATAGGGCT CTGGTCAATA TCAATCAAAC GGTGACATG	2640
CTCAATCCCT GTAATAGTCT TAAACTTACC AGGTTTGTCT GAATTACGGT TGAGCTTCTG	2700
GGCAATGGCT TTTT'GAGAA TGCTGTTGAT TAGAGTCGAT TTCCCTGAAC CCGACACACC	2760
TGTCAC'GCG ATAAATTTTC CTAGTGAAA GCGAGCCGTG ACATTTTGCA AGTTGTTCTC	2820
ACGCGCTCCT ATCACTTCAA TAAACGACC ATTTCCGACA CGGCGCTCTT CTGGTACTGG	2880
GATGACACGT TTGCCTGACA AGTACTGACC TGTGATAGAC TTGCTGTTGC GAGCCACTTG	2940
CTTAGGTGTA CCTGCTGCAA CAATCTCACC ACCAAAAACA CCGGCACCAG GACCAACGTC	3000
AATCAGATAA TCAGCCTCAC GCATGGTATC TTCGTCGTGT TCCACCACGA TAAGAGTAT'T	3060
GCCCAAGTCA CGCATCTTTT TCAGACTGGC AATCAGGCGA TCATTGTCCC TCTGGTGAAG	3120

522

ACCGATTGAC	GGCTCGTCTA	GGATATAGAG	GACACCTGAT	AGGTTGGAAC	CAATCTGGGT	3180
TGCCAAACGA	ATGCGCTGAC	TTTCCCCACC	TGAAAGGGTT	CCTGCTGAAC	GTGACAGGGT	3240
TAGATAGTTA	AGACCCACAT	TATTAAGGAA	GGTCAAACGA	TCCTTGATTT	CCTTGAGAA	3300
GGGACGAGCA	ATGATGGCTT	CATTTTCAGA	CAAAGTTAAC	TGGCTCACCA	AGTCCAAGTG	3360
GTCAGCGATA	GACAGGTCTG	AGATTTCTCC	AATATGTGGC	CCTTGCTGGC	CGCCACACG	3420
GACAGACAAG	GCCTGGTCAT	TGAGACGATA	GCCTTGACAG	GTTCCGCAGG	TCAGCTCATT	3480
CATGTAGAGA	CGCATCTGAG	TGCGAGTGTA	ATCGCTATTG	GTTTCATGGT	AACGACGTTT	3540
GATATTATTG	ATAACTCCCT	CAAACGGAAT	GTCGATATCG	CGCACGCCAC	CAAATTCATT	3600
CTCATAGTGG	AAATGGAATT	CCTTACCATC	TGACCCATAG	AGAATCAAGT	TCTTATCTTC	3660
TTCTGACAGG	TCCTCAAAAG	GCTTATCCAT	AGCCACTCCA	AAGACTTTCA	TGCCCTGCTC	3720
TAACATGTTT	GGATAGTAGT	TGGATGAGAT	AGGATTCCAA	GGTGCTAGCG	CTCCCTCACG	3780
TAAGGTTTTG	CTAGCATCTG	GCACTACCAA	ATCAGTATCC	ACCTCCAGCT	TGATGCCCAA	3840
GCCGTCACAC	TCACTACAAG	AGCCAAAAGG	AGCATTGAAA	GAAAAGAGAC	GAGGCTCTAA	3900
CTCTGGGACA	GTAAAACCAC	AAACTGGACA	GGCATAATGC	TCAGAGAACA	ACAACTCCGA	3960
GTGCTCCATG	GTGTCGATAA	TGACATAACC	TTCTGCAATA	CGAAGGGCAG	CCTCAATGGA	4020
ATCAAAGAGA	CGACTACGAA	TGCCCTCCTT	GATAACAATA	CGGTCAACCA	CGACATCGAT	4080
ATTGTGTTGC	TTGCTCTTAG	ACAACTCTGG	CACTTCGGTC	ACATCATAGA	CTTCCCCATC	4140
CACACGGACA	CGAACATACC	CGTCTTTCTG	AACCTTCTCG	ATAACACTCT	TATGTTGGCC	4200
TTTTTTCTTG	CGGATGACAG	GAGCCAAGAT	CTGCAAGCGC	TGGCGTTCAG	GTAACCTCAA	4260
AACCTTATCA	ACGATTGCTT	CCACAGAAGA	AGCATTGATA	GCTCCATGTC	CGTTGATACA	4320
GTAAGGCGTC	CCCACACGTG	CGTAGAGGAG	ACGCAGATAG	TCATTGATTT	CAGTCGTCGT	4380
TCCCACCGTC	GAGCGAGGAT	TTTTACTAGT	CGTTTTCTGG	TCGATGGAAA	TAGCTGGGCT	4440
GAGACCATCA	ATGGCATCTA	CATCTGGTTT	TTCCATATTT	CCCAAGAAGT	GACGAGCGTA	4500
GGCGGACAAA	CTCTCTACAT	AGCGACGTTG	TCCCTCCGCA	TAGAGAGTAT	CAAAAGCCAG	4560
ACTGGACTTC	CCTGAACCTG	ACAAGCCAGT	CACGACAACC	AACCTGTCTC	GCGGAATCTC	4620
CACATCAATA	TTTTTTAAAT	TATGGGCACG	CGCCCCATGA	ATGACAATTT	TATCTTGCAT	4680
CTTTGTTCCT	TCFAGTCCAT	TATFGCTTAC	CATTATACCA	AAAAAAGTGA	GATTCTATTA	4740
CCCAAAAGGC	CGATTTTGTA	GTATAATAGT	ACAGTGTGAA	AAAATCTGAA	AAATGAGAAA	4800
GGATAAGGGA	TATGAAACAA	GTTTTTCTCT	CTACAACAAC	TGAATTTAAA	GAGATCGATA	4860
CGCTTGAACC	GGGTACTTGG	ATCAATCTCG	TCAATCCGAC	TCAAAATGAA	TCACTCGAAA	4920

523

TCGCCAACAC CTTCGATATT GATATTGCTG ACCTTCGAGC ACCGCTCGAT GCGGAAGAAA	4980
TGTCTCGTAT TACCATTGAA GACGAGTATA CCCTCATTAT CGTAGACGTG CCGGTCACGG	5040
AGGAAAGAAA TAACCGCACC TACTACGTAA CCATCCCGCT TGGTATTATC ATCACTGAGG	5100
AAACCATTAT CACTACGTGT TTGGAACCAC TACCTGTCCT TGATGTCTTT ATCAACCGTC	5160
GATTGCGTAA TTTCTATACC TTCATGCGTT CACGTTTTAT CTTTCAAATT CTTTATCGCA	5220
ATGCAGAGCT TTACCTAACA GCCCTTCGTT CAATCGACCG CAAGAGTGAA CAAATCGAAA	5280
GTCAACTGCA TCAATCAACT CGTAATGAAG AATTGATTGA GCTCATGGAA TTGGAAAAAA	5340
CTATCGTCTA TTTCAAGGCC TCCCTCAAAA CAAATGAGCG CGTGATTAAG AAATTGACCA	5400
GTTCAACCAG CAATATCAAG AAATACCTTG AGGACGAAGA CCTGCTTGAA GACACCTGA	5460
TTGAAACCCA ACAGGCCATC GAGATGGCAG ATATTATGG AAACGTCTTG CATTCTATGA	5520
CAGAGACCTT TGCCCTCTATC ATTCTAACA ACCAGAACA CATCATGAAA ACCTTGCCCC	5580
TTGTGACCAT CGTCATGTCC ATCCCAACCA TGGTCTTTTC TGCCACGGG ATGAACTTTA	5640
AGGATAATGA AATCCCCCTA AACGGAGAGC CAAATGCCTT CTGGTTAATC GTCTTTATCG	5700
CCTTTGCTAT GAGTGTCTCG CTCACTCTCT ATCTCATCCA TAAAAATGG TTCTAAGAGG	5760
AGTTCCATG TCTCAAATTG ATCTACAAAA ATtAACTAAG AAAACCAAG AGTTTGCCA	5820
CATTGCTACC CAACAATTCA TCAAAGATGG GAAAACAGAC GCTGAAATCC AGACTATTTT	5880
TGAGGAAGTC ATTCCCCAAA TCCTTGAGGA GCAATCTAAA GGTACAACCTG CCCGTTCCTT	5940
ATACGGCGCA CCAACTCATT GGGCTCATAG CTTCACTGTC AAAGAGCAGT ACGAAAAAGA	6000
GCAITCAAAA GAAAATGATG ACCCAAACT GATGATTATG GACTCAGCTC TTTTCATCAC	6060
TAGCCTCTTT GCCCTTGTCA GCGCCCTCAC AACCTTCCTT GCGGCAGACC AAGCTTTCGG	6120
CTATGGATTG ATTACTCTTC TATTAGTTGG ACTGGTTGGT GGATTTCCTT TCTACTTGAT	6180
GTAATACTTT GTTTACCAAT ACTATGGACC AGATATGGAT CGCAGTCAAC GTCCACCTTT	6240
CTGGAAATCT GTACTAGTTA TCCTAGCTTC TATGTTCTTT TGGTTGCTTG TCTTCTTTGC	6300
AACAAGCTTC CTACCAGCTA GCCTTAACCC AGTACTGGAT CCATTGCCAC TAGCTATTAT	6360
TGGAGCAGCC CTCCTAGCCC TTCGCTTCTA TCTCAAGAAA CGCTTGAATA TCCGTAGTGC	6420
AAGTGCAGGA CCAACACGCT ATCAAGAATA AGAAAACGAT AAAAGCAACT GCAGGTGCGG	6480
TTGCTTTTTC ACTTACTTTT TTGAGTTATA TTCAATGAAA ATCAAAGAC AACTAGGAA	6540
GCTAGCTGCA GGTGCTCAA AGCACAGCTT TGAGGTTGCA GATAAACTG ACGTGGTTTG	6600
AAGAGATTTT CGAAGAGTAT TAAAAGTATT CTTCTGAAAT CCCACATAGC TTTCTCTTAT	6660

524

ATTTTGTGAT AAAATAGGCT CAATCTATTT CTAGGAGGAT GAGATATGGT TTCTACTATT	6720
GGTATTGTTA GTTTATCTAG TGGCATTATC GGAGAGGATT TTGTCAAACA CGAAGTGGAC	6780
TTGGGTATCC AACGTCTCAA GGATCTGGGA CTCAATCCCA TCTTTTT	6827

(2) INFORMATION FOR SEQ ID NO: 61:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 11864 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 61:

CTGGCTAGTT GCATAGAGCA AAGTTGCTTC TTCATCAACA AAACCGTTCA TTTCAAATA	60
GGAAAGCAGC TCATCAGGAC TCTCCAAACG AATCCCTTG TAATCCAGCT CAACTGCCAC	120
CTCTTTCAAG GCTGCAAGAA GAAGTGTTC CAGGCCCTGT CTCTGATGGT CAAACTCGAT	180
GACTAAAGAA TGTACTTTTA GACATTGCGG ATTGTCTGAC TGGGGACTTG ATAAATATA	240
GCCTAAAGT TGATTTTCAT CCCTAGCTAG AAGAAAGTA TCCGCACACT TACGGATACT	300
TTCTTCTAAA ATATGGGAAA GTTGCTGCTT TTCAGCTGGA AAAGACGAGG TCTGAAGTGC	360
CCCTATCTCA GGCAAATCAG ACTTGCTTGC CTGAATGATC TTAATTGGAA TTTCCATGGG	420
AACATCCTAT TGAACATTGC TTGTCAAGTT AGACAAGAGA CGCTCAAATG AGTATTCATA	480
GGTTTGGATG TCTCCTGCTC CCATAAGAC GTAAACAGCA TTGTCATGGT CTAGGAGTGG	540
AGAAACATTT TCAACAGTAA TCACTTGGTG TTTTGTGTG ATTTTGTGG CTAGGTCTTC	600
TACCTTAACG TCACCATGAT CTACTTCACG AGCCGAGCCA TAAATTTGCG CTAGATAAAC	660
AGCATCTGCT TGGTTTAAAG CATGGGCAAA GTCGTCCAAC AAGGCAATGG TTCTTGTA	720
GGTATGCGGT TGAAGACTG CTACAAATTC CTTGCTTGGG TATTTCTGAC GAGCCGCATC	780
CAAGGTCGCA ATAATTTCTG TTGGATGGTG GGCAAAGTCA TCGATAATCA CTGTATCATT	840
GACAATTTTC TCAGTGAAAC GACGTTTAA ACCGGCAAAT GTTTTCAAGT GCTCACGCAC	900
CAAGTTCAAA TCAATCCTG CTGTGTAAAG AAGACCAATA ACGGCTGTCG CATTCATGAT	960
ATTGTGACGA CCAAAGGTTG GAATGTGGAA TTGCCCAAG TTTTGTCCAC GGAAATGAAC	1020
GGTGAAGGTT GAACCACTTA TTGAACGAAG AAGATCACTA GCTACAAAGT CATTGCCTTC	1080
AGCTTCAAAA CCATAATAAT AAATTGGTGC ATCAGACGTA ATCTTACGCA ATTCAGCATC	1140
TTCACCATAG AAAAAAGAC CCTTGGTGAT TTGTTTGGCA TAGTCGTTAA AGGCATTA	1200
AACATCCTCG AGACTTGTGA AATAATCTGG ATGGTCAAAG TCAATGTTGG TGATAATAGA	1260

525

GTATTCTGGG TGGTAAGGCA TGAAGTGACG CTCATATTCG TCAGATTCAA AGACAAAATA	1320
TTTGGCATTG GCCGAACCAC GACCTGTCCC ATCTCCAATC AAGAAGCTGG TATCTGTAAT	1380
GTGAGACAAG ACATGAGACA ACATACCTGT CGTTGAAGTT TTTCCATGTG CTCCTGCTAC	1440
TCCCATGCTA ACAAAGTCAC GCATAAAGCT ACCTAGAAAC TCATGGTAAC GTTTGTAGCT	1500
GATACCATT TGGTCCGCAT AGGCAATTTC GACGTTGTTA TCTGGACGAA AGGCATTTC	1560
AGCGATAATT TCCATATCAC CGTCTAGATT TTTTTCATCA AAAGGAAGAA TGGTAATTCC	1620
TGCCTGCTCA AGACCGCGTT GGGTAAAGTA GTACTTTTCA ACATCTGATC CCTGAACCTT	1680
GTGCCCCATC TGGTGCAACA TCAAGGCCAA GGCACATC CCGATCCCT TAATTCCGAT	1740
AAAATGATAT GTCTTTGACA TGTTTTCTCC CCTATTCTGT CATTCCTGGTC AGATTCAACT	1800
CTTGGGCAAC CCGACGTCT TGTCTGTTT GTTACTTTT TTTATTGTAG ATTTGGCTCT	1860
TCTTTAGAAA ATCATAATTG TTTTCTTTG GAGCAGGTGC TGACACTTCT TCATTCTTGG	1920
TAGGGATAGA ATGAACTTCT TCCGCCAAGA TATAATGAGA CTGGGTCAAT TTTTGGCTAT	1980
ATTTGACAAA TTCACCAGGA TTTTCCTTTT GGAAAGGAGC TGTCGGTTGA TTGCCCTGTC	2040
TAACTAGACT GGGCTGAGAA TGACGTCTCG CAAGGCTGAA ATCCTGAGTT AGGTAGTTAG	2100
CAGAGCGTTT CTTTTTCAAG TCCGCACGCG CTCTTCACG CGCCACCTCC GCATAGCTCT	2160
TTCTTCTTTT TTTAACCCCT AAAGGAGCCT TTTTAGGTTT TTCGACTGTC TTTTCAATCG	2220
GTTTTACTGG TTTTCTTCA GCAATAGGAG CCCATTCTAA ATAATTTTCA TCTCGATACT	2280
CACCCCTGAT ATTACTGATC AGATCAGACT CATCATAGAG ATTCATGACT GGCATTTTCA	2340
TCAACATGAC CTCGTCATCT GACACCAATG GAAATCGTTC TTGTTTCATT TTCTATTTC	2400
TTTCAACACT TCATTATAGC GTATTGCTCT GATTTTTCAA GTGCTGGCTT CAGAAATTCC	2460
CAAAATTTCT CTAATTTCTG CTAGGGTCAG ACTACCACGT GACTCTGTGC CGTCCAATAC	2520
TTGTGACACC AGATGTTTCT TTTGTTCTTG GAGTTCCTGA ATTTTTTCTT CAATGGTTCC	2580
CTTGGTCACC AAGCGATAGA CCTCAACCGT TTCTTCTGA CCCATCCGAT GGGCACGGCC	2640
AATGGCTTGC GCTTCCACCG CAGGATTCCA CCAAAGGTCA ACCAAGATCA CTGTATCTGC	2700
ACCTGTCAGG TTCAGACCGA CCCCACCAGC CTGAGGGAA ATCAGAAAGG CATCTCTTTC	2760
TCCTTGGTTA AAGGCCTTGG TCATGTCTTG TCTTTCCTTG GCTGGGGTTG AACCCGTAAT	2820
TTTAAAGGAA GTCAGGCCCA AGTCTGGCAG TTCTTGTTCA ATTTTTCCTT ACATTCCCTT	2880
GAACTGAGAG AAAATCAAGA CACGGTGTCC GCCGTCTGCC ACCTGTACCA GTAGGTCTCG	2940
GAGACTATCT AGTTTGCCGC TGGCTCCCTG ATAATCTTCC ATAAACAGGG CAGGAGTGTC	3000

525

ACATATTTGA CGCAAGCGCA TCAAACCAGA TAAAATTTCC ACACGACTTC GCTGAAATTC	3060
CTGTTCTGAC ACTTGAGCCA GATGGTCTCG CATCTGTTGT AACTGGGCAA GGTAATAGC	3120
CTTTTGCTGG TCTTCCAGTT CATTTTATA AACCACTCA ATCAAGTCTG GCAATTCAGT	3180
CAGAACTTCT TCTTCTTGC GTCGCATCAC GAAAGGCTTG ATAACTGAG CCACTCGCTC	3240
TGCTGGCAAT TTCATAAATT CTTTCTTGCT TGGCAAAAGT CCAGGCATGA CGATTTGGAA	3300
AATAGACCAC AACTCACCCA GATGGTTTTC AATCGGAGTT CCTGACAAGG CAAAGACCGA	3360
CGGCACCACA AATTGTCTCA AGGTCTGGGC AATCTGGTC TGGGCATTTT TCATGACCTG	3420
AGCCTCATCT AAGAAAAGGA AGTCAAAGGC CATCCCTTGA TAAACTCAC TGTCTGACG	3480
GAAGTGGCA TAGCTAGTCA CATAGATTG ATGGCTCTCG GCAAGAATCT CCTCACGACT	3540
TGCTTTCAAA CCATGAACAA CAGTCACATC CAACTGTGGA GCAAATTTCT GAAACTCATC	3600
TGCCCAGTTG TAAATCAAAC CCGACGGAGC GAGAATCAAA ACCCGACTTT CTTTGTGCAC	3660
TTGACTAGTC AAAAAAGCAA TGGTCTGAAG GGTTTTCCCA AGTCCCATAT CATCAGCCAA	3720
AATCCCACCA AAACCATAAT GATGGAGCAT CTGCAACCAG CCAATTCCTT TTTCTGATA	3780
ATCTCGCAAG TCAGCCTTGA CCTGAGTTGC TTGCAAAGGA AAGTCCTCTG GATGCGTCAA	3840
ATCCTGGGCC AGATTCTGGA ATTCTTGTGA AAAAGAAACA CGGTCTCGCC CTTCAAAGAG	3900
ATGAGCTAAA CTGTAGGCCA AGGATTTCCTG AGCCTGCAAG GTCCCATCTT TTAATTCAAA	3960
TTGCCCCAGT TCCTGTAGAT TTTGGCGAAT TTTCTTGGTT TCTTCATCGA AAAAGTAAAC	4020
TTGATTAGAC GAATCAATAT AAAATCCTG ATTGGCAACC AAGGCCTGCA TGGCTTGCTC	4080
GATTTCCCTC TGGACAATAT TTTGAAAATC AAACITGGATT TCCAAGAGAC CTCCCTTGGA	4140
GGCAATCTGC ACCTGAGGAC TCGCTAGGCT ATAAAGCTCT TCTAGTTTAT CTGATAGGTC	4200
AACATGCCCC AGTTTTTCAA AGACTGGAAT GATATCATGA AAAAAATGAT AGACAGACTC	4260
CGCTTTTAAG GCCTGACGCC AAGATTGAAA ATCGGCCCTCA AAGCCCGCAG CCAAACAGAC	4320
TTGGAAAATT CTTTCTTCTA AGTCTGCGTC ACTTGAAAAG GGTAATTCCT CTAGCTCTTG	4380
TCGGCTAGAT ACCTGTCTAT TTCCATAATC AAACITGAATT TCTAAACGAA TCCGATTATC	4440
TTCTTCCCTG TCAAAGTAAA AAGAGGGCGC AAAAGTTTGT ATTTGTAGAC GTTCTGGAGC	4500
TGAAACGGTG CCCATCTGGA TAAAAAGAGT CAGACAGGAG GCCAATTTGT CTCGATCACT	4560
GCTATCAAAT TGCAGTATT TCTTTCCTTG TTGACCCACA GGTAACGCTT TAATTCCTT	4620
GAGAAGACGC ATCTGCTGGT CTGTTAAAAA ATAAACCTGA CCTTTATGGA AAAGTACTGC	4680
TCCCTGATAA AAGACATTGA CCCTAGGACT CTCACTGATT TCCATTTCAA AATAATCCGA	4740
GTATCTGTT ACTGTAAAG CAAATAGATT GGCATCAGCA TGCATATCCT GAAAAAGCAG	4800

527

GGTTTGGTAG CTATCCACTT GATGGTCAAA TTGAAAATGG GGCAAGGCCA TCAGTAAATT	4860
CACACCCTGC TCAAAAAAGG TCAGAGGGAA AAAGAGGTGC CGACCTTGGT TTTGGAAAAA	4920
GAGGTCTGGA ACCAGCCCTT CCTCCGTTAG TCCGTGCAAG AAAGTCAAAA GTTCTTGGCT	4980
GGCATCATCA AAGGCTTCCC AAGAAAGAGA CTCTTCATAA ATCTTGCCAA TCATATACGA	5040
CTTCTCTGTC TCGACAATCC TTAAAAAAG TGGAATATCC CGAATGACAT AGTATTTTGT	5100
GCTATTGATT TGGCCGATTC TCAGAGTCCA CAAGATATGA TTGGTTCCTG CTTCCACCTG	5160
ACCCACAGCT GATAACTCAT AGGCGCATTC TGATTTTGA GATAAAATTC GATCCAAAAA	5220
CTTGCCACCC AAGGTCACCT TGGTTTCAAC AGCCTCTTTT TCTTCATGAC CTTCTTCCAG	5280
ACTCCACAAG ATTTCTGAC CACGCTCATC ATTTTTCAGA AAATGCTCTA GCGCTGCCAA	5340
ATGCACACAG TAGCCCCTCT TTTGAAAAA ATCACAGGCA CAAAAACCA AATCATCCTC	5400
TAAACTATAG CGCAGTTCTT CTTCTGCAAC GCGAGCGTAG AGCCGATTGT TCTTTTCCTT	5460
GATGATATCA ACCTTACCAG TTTCATAAAG GGCAACACCT TCGATACGAA TTTTCCCGG	5520
AATCAATTTA GCCATATTTT CACCTTTACC TTATCTTTT ATTATACCAT ATTTTCGCCT	5580
ATGAAAATAG CTTCTAGGA AGACTTTTCT CCTAGAAGGC TGGATTTTGA ACGTTTGGCA	5640
AAAGTAGCCA CAATCCGCTG ACAGACTTCT TGCAACAGAG ATTTGGGCAT AGCTATATTG	5700
ATGCGGGCAT GGAGACTTCC TTCCTCTCCA AAATCCAAC CACGGTTGAG GATAACCTTG	5760
GCTTCATTTT TCAACAACTC TTGCAATGTT TCATCAGTCA GGTGATAAGC TGAAAAGTCA	5820
AGCCAAATCA AGTAGGTACC TTGCGGTTT ATGACCTTGA TTTTAGTCTC TTTTCCAAAT	5880
AGATCCATCA CATAATGAT GTGGTCTTCA AAGACTTGCT TGAGTTCCTC TAGCCAATCT	5940
TTACCGTATC GATAGGCAGC TTCTGTGCGC AAATAACCCA AGCCTGAAAT TTCATGCTGA	6000
TTATTGGCCA ACAGGCGTTT CTGGAAAGCC AGTCTCAACT TAGGATTTTC AATGACTGCA	6060
TAGGAATTTT TTGTTCAGC AATATTAAAT GTTTTAGTGG CACTGCTCAA GACGATAGCA	6120
AAATTTTGA AGGCAGGATT GATGGTATTG AAAGACTGGT GTTTGTGACC AAAGAGGGTC	6180
AAATCTTGGT GAATCTCATC CGAAACTAAC AAAACACCGT GTTTTGGCA GAGTTGGCCA	6240
ATCTTCTCCA ACACTTCTTT TTCCCAAACA CGTCCACCAG GATTGTGAGG GTTGCAAAGA	6300
ACATAGAGTT TAACCTCCTC TTCCACCAAA TCCTTTTCAA GTTGGTCAAA GTCAATCTCA	6360
AACAGACTAT CCTTTTCCAC TAAGGAATTA GTAATCAATC TACGATTATT CAACTTGACA	6420
CTGCGAGCAA AGGGTGGGT GACAGGCGTG TTAATTAAAA CCGCTCGCC TTCTTTGTGA	6480
AAGGTTTGAA TAGCTGTTGA GATGGCTGGT ACCACACCCT CGATAAAGAC AAGAGCCTCT	6540

528

TTGTCAAAGT TGTAAACGTA TTGTGTAGCT TCCCACCTTTT GAACTTCCTT AATTAAGTCT	6600
TCACCTGGCAT AGGTATAACC ATAAACCAGT TGGTCTGCCG AAGTTTGCAC GGCTTGGCGG	6660
ATTTTCAGGCA AGACCACAAA GTCCATATCC GCTATCCAAG CTGGTAGAAC TTCACTATCC	6720
GTTTCTGTTT CTTTCCATTT ATAGGTATGG TGCCCTAAAC GGTGCGGCAG GCTTGTAATA	6780
TCATATTTTC CCATCTTTGT CTTATCCTTC TATGGCTTGG CGCAAATCTG CAATCAAATC	6840
TCTAGCATCC TCAATCCCAA TAGACAAACG CAAGAGGTCA TCTGTCAAAC CATAAGAATG	6900
GCGTACCTCT GCTGGAATAT CAGCATGAGT TTGAGTCGTT GGATAAGTAA TAAGACTTTC	6960
CACTCCACCC AAACCTTCCG CAAAAGAGAA GACCTTGAGA CTGTTCAAAA TATGAGGAAT	7020
GCGTGTTTCA TCGGCTACTT TAAAGGAAAT CATGCCTCCA CGACCAGTGT AGAGAACTTC	7080
CTTAAGTGCT GGAGAATCCT TCAAAAAGGC AACCCTTCT TGGGCGTTAG CTGTTGAGCG	7140
CTCCATACGA AGAGACAAGG TCTTGAGACC ACGAAGCAAC TGGTAGCTGT CAAATGGAGA	7200
CAAGACTGCC CCTGTGTAT TAAGATTGTA AAAAAGCTTC TCGTATAGTT CTAAACTATT	7260
GGTCACAACC ACTCCAGCCA AGACATCATT GTGGCCTGCT AGATACTTGG TTGCTGAATG	7320
GAGAACGATA TCTGCTCCAT CTTCAATCGG ACGTTGGTAG ATAGGGCTAT AGAAGGTATT	7380
GTCCACCACC ACTTTGGCAC CCTTAGCATG AGCCAATTTT GCTAGTTTTT CGATATCAAA	7440
TTCCAACATC AAGGCATTGG TTGGGGTTTC GATATAGAGA ACATCCACAT CCTTTCTAA	7500
CTCGGCAATC AACTCTTCTT CTGTATTGGC ATAGGTAAAA TGGAAATGAC CTTCTGCTC	7560
CACTTGCTTA AACCAGCGAA AAGAACCACC GTAAAGATCA CGCACTGCCA AGACCTTACT	7620
TCCTACTGGA AAGACGCTAA AGGCCAGTAC AATAGCTGAC ATCCCTGAGC TAGTCGCTAG	7680
GGCATAGTCT GCTGACTCAA TAGCCGCCAA GACTTCCTCA GCCTTACTAC GAGTTGGATT	7740
TTTAGTGC GC GTATAGTCAA ACCCAGTAGA TCGACCAAAC TCTGGATGCT GATAGGTCGT	7800
TGAAAAATGA AGTGGTGTCA CCAAAGCACC TGTGCTCA TCAGACTTGA TCCCTGCTTG	7860
TGCTAAAAAT GTGTTAATGT GTAATTCCTT GCTCATACAA TTCCTCCAAA TCTATAGTAA	7920
CTATTGTACC ACTTATTTTG TATCCTTCGT TTTCTTGTTC TCAAGAGCTA GTTATAGTTT	7980
CAAACTATAT AAAAAGGGAG TTTTTCCTGC TCCCTTTAAT AGACTATAAA ATGGTGAATC	8040
TCAAAAGACA CCTTCACTCT ATCATTGCT CCTGCACAAA ACGAGCATAA CGCTCATGAT	8100
TTTCCAGTAG TTCCTTATGA GTTCCTGAGC CAGTGATTTT CCCCCTCCTT AAGAAGAAAA	8160
TACAATCCAC ATCTTTTACC GTTGACAAAC GATGCGCTAT AATCACAACC GTCTTCTCCT	8220
TTAGTACAGA ATAGAGGCTA CTGATAATCG CATACTCAGA ATCCGCATCA AGATTAGCAG	8280
TGGCTTCATC AAATATAAGA ATTTCAAGCAT CTTTAAAGTA GGCTCTAGCT ATTTGAAGTC	8340

529

TTTCGTTTCGC	CCCCCTGACA	AGAGTCGTCC	GCGTTCACCA	ACTTCAGTAT	CTAGTCCCTC	8400
TTTCATGGAG	CGAATCTCAT	CACCTAGTGA	TACTAAGTCT	AGCACTTTCA	TCAATTCATC	8460
ATCAGTTACT	AAGCGATTCA	AACCGAGACA	AAGATTGTCA	CGAATACTGC	CAGATAAGAC	8520
TGCATTATTT	TGTGAAACCC	AAGCGATTTT	ACTTCTCCAT	TCTTTTAAAGT	TAAAATCATA	8580
TATACTTGAT	TGCTCCATTA	GAATATCTCC	TGAAAGCGGT	TTATAAAACC	GCTCTAACAA	8640
ACGCACAATC	GTTGATTTTC	CTGATCCAGA	TGGTCCAACA	AAAGCAATTT	TTTGCCCTTT	8700
GAAAATTGAA	CAAGTAATAT	CCTTTAAGAC	AGGTCGATTT	TCATCATAAC	CAAAATAGAC	8760
ATGTTTAAAA	TTCAACCCCTC	GTCTGATAC	CGATTTTCCT	CCCTCAAATT	TTTCTTTAGG	8820
AACTGCAAGC	AAGTTCTCCA	GTGCAACTGA	AGATCCCTTG	CTCCTAGAAT	AAACAGTTAC	8880
AAAATTAGCT	ATATTACTAA	TAGGATTAAG	TAATTGAAAG	AGGTAAATCA	AAAACGAAAC	8940
CAAGGTTCCC	ACAGATATAT	ATCCTGCGCT	GACCCGATAA	CCCCCATAGG	TTAGCATCAC	9000
AGCTATAGTC	GCAAAGATAA	ATAAGAGAGC	AAACGGGGTC	TCAAAAGAAG	TAACCCATATC	9060
TGATTTTCAGT	GAATTGTTTT	GTACCCTTTC	AATACAATTA	TCCAAAACAT	CCTGTACACT	9120
TTTCTCTGCT	TGGTTAGTCT	TAATTAATTC	ATGTTCTTGA	ATCTTTTCAG	TCAATTGCCC	9180
TGTTAAATTT	CCTCTGTAA	ACGACGACTA	TACTTTTCAC	TGATATTGGA	AAGGGGCAAG	9240
ATAATAAACA	TCATACAAGG	AAGAGTGATG	AATAAAAGTA	GAGAAAGATT	CCAATCAAGA	9300
CTAAATAAGA	CTACAATGGA	ACCAAGTACC	ATAACTAAAC	TCAGAATAAT	ATTTGGGAAA	9360
GTCTTAATTA	AAAACCTACG	AATGACACTC	GTGTCATTGA	CAATGGCAGA	AGTCAACTCC	9420
CCACTTTGGC	TCTTATCAAA	GAAGGATTTT	TCTACATAAA	TCAACCCCTC	TATCACTTTT	9480
TTCTGTATTT	TTGCTATCTT	TTTTTCACCC	GATTGACTAA	ACAGATAGTA	ACCAATAGAA	9540
GAAAACAAGG	CTTGACCAAT	AAAAATCAAA	AACGATTGAA	ATACTTTGGA	GCCTATATTT	9600
TCAATAGAAC	TCCCATCTAT	TAAATCCTTT	AAGATAAGGG	GAAGCAACAA	AGCAAGTAGA	9660
CTAGACAGAA	CAAGTAAGAA	ACTCCCCATA	ATCACCTTAG	TATCTACTCT	TAATAATTTT	9720
AATTTTCATA	ATACTCCTTA	TAATATTTCA	ACGGATAAAG	TCGGGAATAA	CTCAATTGGA	9780
GGATAAAATC	TAATAAATCT	TCCTATAACA	AAACGCATAA	CATCTAGGAT	TTTATATACC	9840
TGATATTATG	CGTTTTTAAG	CACAAAGACT	TCTTACACAA	ACTTATCTAC	AATTAGATTT	9900
TATTTGACAT	GTTTTGCCAA	TTCTTCTTGG	GCTTTTTTAT	TGGATTCTTC	TTTTTCTTTC	9960
AACCATTTTT	CTCTGGCTTT	TGCATATTCG	TCTGTTGTGA	CAATCTTATC	TTGTACTTTG	10020
AGGTATTTAT	ATGATICAAC	CCCTTTTGTA	CCGGTTAAAC	CATAGGCAGC	AGCAAATGCT	10080

530

ACGGTTCTTC TCAATGATGG TGTCCCCCA CGCGAAACAC TTGGAAGAAC TAAAGAACTA	10140
TCAATCAACC AAGCTTGAAT ATCAGCATAT TTCTCATAAC GTTTGGCCGG ATCTTGCTCT	10200
TTATTAGCTT CTTC AACAT TTGAGTATAG ACATCCAGTC CAACTGCCTT AGCCTTGTC	10260
TTGGCCTCAC CAGGCTCTAG TCCAAGATTT TGCAGAAATC CTCCACTATT AGTATTAAAA	10320
ATATCGAGAT AGGTTGACGG GTCTTGATAA TCAGGTCCCC AACCGCCATG ATATAAATCA	10380
TAATCTTTCT GAGCAGCTGT TTGAGCAAAG TAGCCTGAAC TGCAAACTC ATCTGATGTT	10440
AATTGCTGAA TGTC AATCAC TACATTATCA GAACCTAAAA CAGATTCAAT TGATTGTTTG	10500
ATAGAACTAA CTCCTTGAT GCCTACTTTA TCTGTTACTT CCACAGTCTT ATCCAAGTGG	10560
ATTGGGAATT GAACACCCTT TGCTTCGAGT TCTTTCTTAG CTTCGCAAA CTAGCCTTG	10620
GCTTTCTCAG GATTGTAGTA AGGGTCTTGA CCATCCGCAA AGTTGATACC TTGCCATTCC	10680
TTACCATAGT TGACCATCTT AGAGGCTACA ACTTCACCAA AGTCTTTTCC CTTGATACTG	10740
ACAAAGTTTG GAGGAACCAC TAGGTTACGC AAAATCTTTG TTGCACCTTC TTTCCCTTCA	10800
GACTGAGCCC CATAAGATGT TCTGTCAAAA GCAAAATTGA TAGCCTGACG GAAGTTTSTA	10860
TTGAGAACTG CTTCTGAGT CGATTCTTTT TCAATGTCAC TTGTTTTAGA AGTATAAATTG	10920
TAAGACTTCC TATCTAGGTT AAAATTAAG AAATATGAAG TTGAATTTTG CATACTATAG	10980
ATGATATTGT TTTTGTATTT TTCTTTAATC CCTTCATAGC TGGAGCTGTT AGGAAAAAGA	11040
CGAGCCGTAG TATAAGCACC AGCTGTAAAA TTACGTTCCA GTGATTCTTG GTCGCTACCA	11100
TCATAGTAGG TCAATTCAC ATCGTCTACA AAGACATTCT TAGCATCCCA GTAATTAGGG	11160
TTTTTCTTAT ATTCAATAGC AGATTTTGAG ACAAGTGCTT TCATCAAGAA AGGTCCATTG	11220
TACAAAATAC TAGATGGATC CGCCTTCCCA AAATCATCCC CTTTGTGATT CAGGAAATCT	11280
GCATTAACAG GAAAAAGTAT CGTTGCAAGT GTTTTGAAT TCCAGTAAAG TTCTGGTTTA	11340
ACCAAAGTAT ATTGAACCGT TTGGTCATCA AGTGCCTTGA CACCGACAGT TGAAAAGTCG	11400
CTTGTTTTAC CAGTGATATA GTCATCCAAA CCAGCAACAG AGTCCTGCAC TAGATACAAG	11460
GCTTCTGATT TTTTATCAGC TGCATATTGC AAACCTGTCA CAAAATCCTG GGCAGTTACA	11520
GGCGCATATT CTCTCCCTC AGAAGTAAAC CACTTGGCAT CCTTACGAAG TTTGTAGGTA	11580
TAGGTCAAAC CGTCTGAGA AACAGTCCAA TCCTCTGCTA ATGATGGAAT AATATCCCA	11640
TATTGGTCAT TTTCTAATAA CCCGTCTACC AAATTGCAA CAATATCGGA TGTGCTGCG	11700
CGGTTTTCTG CTAGATAGTT CAAGCTAGAT GGATCACTTG AATAAACATA GTTGTAGGTT	11760
TTTGACCCG TGCTAGAATT TCCACACGCG CTCAATAAAA CTCCTGTACC CAGGACAAGA	11820
CCTGCCAAGG TTAGATATTT GCTCTTAGAC TTTTTCATTT CCGG	11864

531

(2) INFORMATION FOR SEQ ID NO: 62:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 2412 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: double
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 62:

TAAGTGCCTT AAACATAATA TAAGGAGAGA AAATGTCTGC AATAGAACGT ATTACAAAAG	60
CTGCTCACTT AATTGATATG AACGATATTA TCCGTGAAGG GAATCCTACT CTACGCGCGA	120
TTGCTGAGGA AGTCACCTTC CCCCTATCTG ACCAGGAAAT CATCCTAGGC GAAAAGATGA	180
TGCAATTCCT TAAACATTCC CAAGATCCTG TCATGGCTGA AAAAATGGGA CTCCGCGGTG	240
GTGTTGGACT GGCTGCTCCC CAGTTAGATA TCTCAAACG CATTATCGCT GTTTTGGTAC	300
CTAATATGTG TGAAGAAGGC GAAACTCCAC AGGAAGCCTA CGATTTGGAA GCCATTATGT	360
ACAATCCAAA AATCGTCTCT CACTCTGTTC AAGATGCTGC TCTTGGCGAA GGAGAAGGTT	420
GCCTGTCTGT TGACCGTAAC GTGCCTGGCT ATGTTGTTCG CCATGCCCGC GTTACTGTTG	480
ACTACTTTGA CAAAGATGGA GAAAAACACC GTATCAAAC CAAAGGCTAC AACTCCATTG	540
TTGTTTCAAG TGAATTTGAC CACATTAACG GTATCATGTT TTACGATCGC ATCAATGAAA	600
AAGACCCATT TGCAGTTAAA GATGGTTTAC TGATTCTTGA ATAAAGAAAA TCCCGTTGCA	660
AGACGGGGTT TTGTGTTATA ATAGAGGCAT GAAAAACAAAT GATATTGTCT ATGGTGTCCA	720
CGCCGTTACC GAAGCCCTCC TTGCAAATAC AGGAAACAAA CTCTACCTCC AAGAAGATCT	780
CCGAGGTAAG AATGTTGAGA AAGTCAAGGA ACTAGCTACA GAAAAGAAGG TGTCCATTTC	840
TTGGACATCA AAAAAATCTC TCTCTGAGAT TACTGAAGGT GCTGTTTCATC AAGGTTTGT	900
TCTACGAGTG TCTGAATTTG CCTATAGCGA GCTAGATTAC ATCCTTGCAA AAACACGCCA	960
AGAAGAAAAT CCACCTCTAT TGATTCTAGA TGGTCTAACC GATCCCCATA ATCTGGGTTC	1020
TATCTTGCGA ACAGCCGATG CGACCAATGT TTCAGGTGTC ATCATTTCCA AGCACCGTAC	1080
TGTCGGAGTA ACTCCTGTCG TTGCCAAAAC AGCCACAGGT GCTATTGAAC ACGTtCCAAT	1140
TGCCCCGAGT ACCAACCTCA GTCAAACCTT AGGATAAACT TAAGGATGAA GGTtTCTGGA	1200
CCTTTGGAAC GGATATGAAC GGTACTCCTT GCCACAAGTG GAATACAAAA GGGAAAATCG	1260
CCCTCATCAT TGGAATGAA GGAAGGTA TCTCTAGCAA CATCAAAAAA CAGGTCGATG	1320
AAATGATTAC CATTCGATG AATGGACATG TCAAGCCT TAATGCCAGT GTTGCTGCGG	1380

532

CCATTCTCAT GTACGAAGTT TTCCGAAATA GACTATAAAA AAGTTTCCAG TCATCTGATT	1440
GGAAACTTTT TTATGATTAA CTATGTTCTG TAATGAATTT ATAGGCTTCT TGACCAGCGA	1500
TAGCTCCATC TCCAACCGCT GTTGTACTT GGCGAAGGTC TTCAAGCGA ACATCTCCAA	1560
CTGCAAAGAT ACCGTCGACT GCAGTTTCA TGTGGTTATC TGTCACAATC CATCCTGCCT	1620
GATCTTGAT ATTCAATTCT TTAACAAAAT CGCTAAGAGG GTCCAAACCA ACATAGATAA	1680
AGACACCACC GAAGGCTTGT TCTGTCACCT GACCTGTTTT CACATTTTCA AATACGACTG	1740
ATTCTACTCG GTTTTCACCC TTGATTTCCC TTAACACAGA ATCCCAGATA AAGCTGATTT	1800
TTTCATTTCG AAAGGCGCGA TCTTGTAATA CCTTTGGGC ACGAAGTTGG TCACGACGGT	1860
GAACAATGGT AACAGTCTTA GCAAAACGAG TCAAGAAGAG GGCTTCTTCA ACAGCTGAAT	1920
CTCCACCACC AACTACCAAT AAATCTTGGT CACGGAAGAA AGCACCATCA CACACAGCAC	1980
AGTAAGAAAC ACCACGACTG TTCAGTTCTT CTCTCCAGG CACTCCCAAA GGACGGTGTT	2040
TAGAACCAGT TGCTACGATA ACTGTACGTG TTTTATATGT TTGGTCATCA GTCATCACTT	2100
TCTTAAATC ACCATGGCTT CGACATTTT AACATAACCA TAAATGTGCT CAACACCAAG	2160
ATTTTCAAGT GGTTCAAACA TCTTTTCAGC CAATTCAGGT CCACTAATAT TAGCGTATCC	2220
TGGGTAATTT TCGATATCAG ATGTATTATT CATCTGACCA CCTGGCAGAC CACCTTCAAT	2280
CAAAGCTACT TTTAGATTGC TTCGAGCAGC ATACAAGGCC GCAGTCATCC CTGCAGGTCC	2340
AGCACCAGATA ATAATAGTAT CGTACATATA GATTCCTTCT TTCTTGGTGT AACTATCTTT	2400
ATTCTAACTC TG	2412

(2) INFORMATION FOR SEQ ID NO: 63:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 7760 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: double
 - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 63:

CCGATTGGT GGAATTTTG TCTCATCATT TAGAAGGTGT TGCAAGAGCA GAGTTTACCT	60
TGGTGCTTCA TACCAAATTG GGAGAAGCCT CTGTTTGGC AAATATTGTA GATGTAAACA	120
AGGATGAATG GATTTTAGGA ACAGTTGCTG GTGCCAATAC CTTATTGGTT ATTTGTCGAG	180
ATCAGCACGT TGCCAAACTC ATGGAAGATC GTTTGCTAGA TTTGATGAAA GATAAGTAAG	240
GTCTTGGGAG TTGCTCTCAA GACTTATTTT TGAAAAGGAG AGACAGAAAA TGGCGATAGA	300
AAAGTTATCA CCCGGCATGC AACAGTATCT GGATATTAAA AAGCAATATC CAGATGCTTT	360

533

TTTGCTCTTT CGGATGGGTG ATTTTATGA ATTATTTTAT GAGGATGCGG TCAATGCTGC	420
GCAGATTCTG GAAATTCCT TAACGAGTCG CAACAAGAAT GCCGACAATC CGATCCCTAT	480
GGCGGGTGTT CCCTATCATT CTGCCAACA GTATATCGAT GTCTTGATTG AGCAGGGTTA	540
TAAGGTGGCT ATCGCAGAGC AGATGGAAGA TCCTAAACAA GCAGTTGGG TTGTTAAACG	600
AGAGGTGTGTT CAGGTCATTA CGCCAGGGAC AGTGGTCGAT AGCAGTAAGC CGGACAGTCA	660
GAATAATTTT TTGGTTTCCA TAGACCGCGA AGGCAATCAA TTTGGCCTAG CTTATATGGA	720
TTTGGTGACG GGTGACTTTT ATGTGACAGG TCTTTTGAT TTCACGCTGG TTTGTGGGGA	780
AATCCGTAAC CTCAAGGCTC GAGAAGTGGT GTTGGTTTAT GACTTGTCCTG AGGAAGAAGA	840
ACAAATCCTC AGCCGCCAGA TGAATCTGGT ACTCTCTTAT GAAAAAGAAA GCTTTGAAGA	900
CCTTCATTTA TTGGATTGTC GATTGGCAAC GGTGGAGCAA ACGGCATCTA GTAAGCTGCT	960
CCAGTATGTT CATCGGACTC AGATGAGGGA ATTGAACCAC CTCAAACCTG TTATCCGCTA	1020
CGAAATTAAG GATTTCTTGC AGATGGATTA TGCACCAAG GCTAGCTGG ATTTGGTTGA	1080
GAATGCTCGC TCAGGTAAGA AACAAAGCAG TCTTTCTTGG CTTTGGATG AAACCAAAAC	1140
GGCTATGGGG ATGCGTCTCT TCGTCTCTG GATTCATCGC CCCTTGATTG ATAAGGAACG	1200
AATCGTCCAA CGTCAAGAAG TAGTGCAGGT CTTTCTCGAC CATTTCTTTG AGCGTAGTGA	1260
CTTGACAGAC AGTCTCAAGG GTGTTTATGA CATGAGCGC TTGGCTAGTC GTGTTCTTT	1320
TGGCAAAACC AATCCAAAG ATCTCTTGCA GTTGGCGACT ACCTTGCTA GTGTGCCACG	1380
GATTCGTGCG ATTTTAGAAG GGATGGAGCA ACCTACTCTA GCCTATCTCA TCGCACAAC	1440
GGATGCAATC CCTGAGTTGG AGAGTTTGAT TAGCGCAGCG ATTGCTCCTG AAGCTCCTCA	1500
TGTGATTACA GATGGGGGAA TTATCCGAC TGGATTGAT GAGACTTAG ACAAGTATCG	1560
TTGCGTTCTC AGAGAAGGA CTAGCTGGAT TGCTGAGATT GAGGCTAAG AGCGAGAAAA	1620
CTCTGGTATC AGCACGCTCA AGATTGACTA CAATAAAAAG GATGGCTACT ATTTTCATGT	1680
GACCAATTCG CAACTAGGAA ATGTGCCAGC TCACTTTTC CGCAAGGCGA CGCTGAAAAA	1740
CTCAGAACGC TTTGGAACCG AAGAATTAGC CCGTATCGAG GGAGATATGC TTGAGGCGCG	1800
TGAGAAGTCA GCCAACCTCG AATACGAAAT ATTTATGCGC ATTCGTGAAG AGGTCGGCAA	1860
GTACATCCAG CGTTTACAAG CTCTAGCCCA AGGAATTGCG ACGGTTGATG TCTTACAGAG	1920
TCTGGCGGTT GTGGCTGAAA CCCAGCATTT GATTCGACCT GAGTTTGGTG ACGATTACAC	1980
AATTGATATC CGGAAAGGGC GCCATGCTGT CGTTGAAAAG GTTATGGGG CTCAGACCTA	2040
TATTCCAAAT ACGATTCAGA TGGCAGAAGA TACCAGTATT CAACTGGTTA CAGGGCCAAA	2100

534

CATGAGTGGG AAGTCTACCT ATATGCGTCA GTTAGCCATG ACGGCGGTTA TGGCCCAGCT	2160
GGGTTCCTAT GTTCCTGCTG AAAGCGCCCA TTTACCGATT TTTGATGCGA TTTTACCCG	2220
TATCGGAGCA GCAGATGACT TGGTTTCGGG TCAGTCAACC TTTATGGTGG AGATGATGGA	2280
GGCCAATAAT GCCATTTTCG ATGCGACCAA GAACTCTCTC ATTCTCTTTG ATGAATTGGG	2340
ACGTGGAACT GCAACTTATG ACGGGATGCG TCTTGCTCAG TCCATCATCG AATATATCCA	2400
TGAGCACATC GGAGCTAAGA CCTCTTTTGC GACCCACTAC CATGAGTTGA CTAGTCTGGA	2460
GTCTAGTTTA CAACACTTGG TCAATGTCCA CGTGGCAACT TTGGAGCAGG ATGGGCAGGT	2520
CACCTTCCTT CACAAGATTG AACCGGGACC AGCTGATAAA TCTACGGTAT CCATGTTGCC	2580
AAGATTGCTG GCTTGCCAGC AGACCTTTTA GCAAGGCGG ATAAGATTTT GACTCAGCTA	2640
GAGAATCAAG GAACAGAGAG TCCTTCCTCC ATGAGACAAA CTAGTGCTGT CACTGAACAG	2700
ATTTCACTCT TTGATAGGGC AGAAGAGCAT CCTATCCTAG CAGAATTAGC TAAACTGGAT	2760
GTGTATAATA TGACACCTAT GCAGGTTATG AATGTCTTAG TAGAGTTAAA ACAGAAACTA	2820
TAAACCAAG ACTCACTAGT TAATCTAGCT GTATCAAGGA GACTTCTTTG ACAATTCTCC	2880
ACTTTTTTGC TAGAATAACA TCACACAAAC AGAATGAAAA GGAGCTGACG CATTGTCGCT	2940
CCCTTTTGTC TATTTTTTAA GGAGAAAGTA TGCTGATTCA GAAAATAAAA ACCTACAAGT	3000
GGCAGGCCCT GGCTTCGCTC CTGATGACAG GCTTGATGGT TGCTAGTTCA CTTCTGCAAC	3060
CGCGTTATCT GCAGGAAGTC TTAGGCGCCC TCCTTACTGG GAAATATGAA GCTATTTATA	3120
GTATCGGGGC TTGGTTGATT GGTGTGGCCG TAGTCGGTCT AGTTGCTGGT GGAATCAATG	3180
TTGTCCTCGC AGCCTATATT GCCCAAGGAG TTTCATCCGA CCTTCGGGAG GATGCCTTCC	3240
GTAAAATTCA AACCTTTTCT TATGCTGATA TTGAACAATT TAATGCGGGA AATCTAGTCG	3300
TTCGAATGAC AAATGATATC AACCAGATTC AGAACGTTGT CATGATGACC TTCCAAATTC	3360
TTTTCAGACT TCCCCTCTTG TTCATCGGTT CGTTTATCCT AGCGGTCAA ACCTTACCTT	3420
CTCTGTGGTG GGTGATTGTT CTCATGGTAG TCTTGATTTT TGGTTTGAAT GCTGTCATGA	3480
TGGGAATGAT GGGGCCTCGT TTTGCCAAGT TTCAAACCCT TCTTGAGCGC ATCAATGCCA	3540
TTGCCAAGGA AAATTTACGT GCGGTTCTGT TGGTCAAGTC CTTTGTCCAA GAAAAAGAGC	3600
AATTTGCTAA GTTTACAGAG GTCTCAGACG AGCTTCTTGG TCAAAACCTT TACATTGGTT	3660
ATGCCTTTTC AGTAGTGAA CCCTTTATGA TGTTGGTTGG TTACGGGGCG GTCTTCCTCT	3720
CTATTTGGCT GGTGCGGGA ATGGTTCAGT CGGATCCGTC TGTGTGTTGG TCCATCGCTT	3780
CTTTTGTTAA TTACCTAAGC CAGATTATCT TTACCATTGT TATGGTTGGA TTTTGGGAA	3840
ATTCTGTCAG CCGTGCCATG ATTTCCATGC GTCGTATTCG AGAAATTCCT GACGCAGAGC	3900

535

CAGCTATGAC	CTTCAAGGAT	ATCCCAGATG	AAGAGTTGGT	TGGAAGTCTT	AGCTTTGAAA	3960
ATGTGACCTT	TACCTATCCA	ATGGACAAGG	AACCGATGCT	GAAAGATGTG	AGCTTTACTA	4020
TTGAACCTGG	TCAAATCGTT	GGTGTAGTTG	GAGCGACTGG	TGCAGGAAAG	TCAACCTTGG	4080
CTCAATTGAT	TCCACGTCTC	TTTGATCCAC	AGGACGGGGC	CATTAAAAATC	GGTGGCAAGG	4140
ATATTCGAGA	AGTGAGTGAA	GGAACCTGCG	GTAAAACAGT	TTCCATCGTT	CTCCAACGTG	4200
CCATTCTTTT	TAGTGGAACG	ATTGCAGATA	ACTTGAGACA	GGGGAAGGGG	AATGCTACTC	4260
TATTTGAAAT	GGAGCGCGCA	GCCAATATTG	CCCAGGCTAG	TGAATTCATT	CATCGTATGG	4320
AGAAAACCTT	TGAAAGTCCA	GTTGAAGAAC	GGGGAACCAA	TTTCTCTGGT	GGACAAAAAC	4380
AAAGGATGTC	GATTGCGCGT	GGGATTGTCA	GCAATCCACG	TATTCTGATT	TTTGATGATT	4440
CGACCTCAGC	CTTGGATGCC	AAATCAGAGC	GCTTGGTGCA	AGAAGCTTTG	AATAAGGACT	4500
TGAAGGGGAC	GACAACCATT	ATTATTGCTC	AAAAAATTAG	CTCGGTTGTC	CATGCAGACA	4560
AGATCTTGGT	TCTAAATCAA	GGACGATTGA	TTGGTCAAGG	TACGCATGCA	GACTTGTTTG	4620
CCAACAATGC	CGTTTACCGT	GAAATCTATG	AAACACAGAA	ATGAAAGACA	AACTATAAGA	4680
AAAGTCAATA	GTTTTATCTA	AACATTTCTT	TATTTCAATT	TGATGATTTG	GCGATGATTT	4740
TAGAGCACGG	CAAAAAGCCC	TTGAAAAAGT	CCATTTTTTC	AAAGGTAATC	CTGTGTTAAT	4800
TTTCAGAAAT	ACATCACTTT	TTGTTCTGCA	AATGGCAGCT	CTTTTTTTAG	GATATAAAAC	4860
AGGGTTCGGA	TAAGTTTTTT	TGCAAGGTGG	ATGATGGCTA	CATTGTAATG	TTTTCCTTGT	4920
TCTAATTTAG	TCTTAAGATA	GGCCTTAAAA	GCAGGCGAAA	AGCGAGGGCA	TGCTTTGGCA	4980
GCTTGTATGA	GTACCTACCG	CAGATGAGGG	GAACCTCCGT	TGACCATTTCT	TCCTGCTAAA	5040
TCAATCTGAT	CTGACTGATA	AATAGAAGAA	TCCAGTCCAG	CGAAAGCTTG	TAATTGAGCA	5100
GGATTATCAA	AGGCATGAAT	ATTTGGAATC	TCAGCTAAAA	TGACCGCCCC	TAAACGATCC	5160
CCAATCCCAG	TAACCGTCGT	GATGACCGAG	TTGAACTCAG	CCATCAAGTC	ATTGACACAT	5220
GTTTCCGCCT	TGTCAATGAG	CCTCTTGTA	TGTTTGATGT	TTTCATTACA	CGAGATAAAA	5280
CGTCTATGCG	TTATCAAACCT	CATTACCAAT	TAAAACAAAA	AGCTGTGGTT	AGATCCTTTC	5340
GGAAATTGTC	AAGCGATTGG	AGGAAATGAA	CTAATCCACA	GCGGCTTATT	CCAAGTATAC	5400
CACCTGGGCT	TTGGCAGTAG	CTAACTGCGC	TAAATATAAT	ATAAGGAGGA	GTAATATGAA	5460
GACAGTTCAA	TTTTTTTGGC	ATTATTTTAA	GGTCTACAAG	TTCTCATTTG	TAGTTGTCAT	5520
CCTGATGATT	GTTCTGGCGA	CTTTTGCCCA	AGCCCTCTTT	CCAGTCTTTT	CTGGACAAGC	5580
GGTGACGCAG	CTAGCCAATT	TAGTTCAAGC	TTATCAAAAT	GGCAATCCAG	AACTTGATG	5640

536

GCAAAGCCTA TCAGGAATCA TGGTCAATCT TGGCCTGCTG GTTTTGGTTC TATTTATCTC	5700
TAGTGTAATA TACATGTGTC TCATGACGCG CGTGATTGCA GAATCGACCA ACGAGATGCG	5760
CAAAGGCCTC TTTGGTAAGC TTGCTCAGTT GACGGTTTCT TTCTTTGACC GTCGACAAGA	5820
TGGCGATATC CTGTCTCATT TTACCAGTGA TTTGGATAAT ATCCTCCAAG CCTTTAACGA	5880
AAGCTTGATT CAGGTCATGA GCAATATTCT TTTATACATT GGTCTGATTC TTGTCATGTT	5940
TTGAGAAAT GTGACGCTGG CTCCTCATC CATTGCCAGC ACCCCATTGG CTTTCCCTTAT	6000
GCTGATTTTC ATCGTGAAAA TGGCAGCGAA ATACACCAAC CTCCAGCAGA AAGAGGTAGG	6060
GAAGCTCAAC GCCTATATGG ATGAGAGCAT CTCAGGCCAA AAAGCCGTGA TTGTGCAAGG	6120
AATTCAAGAG GATATGATGG CAGGATTTCT TGAACAAAAT GAGCGCGTGC GCAAGGCAAC	6180
CTTTAAAGGA AGAATGTTCT CAGGAATTCT TTTCCCTGTC ATGAATGGGA TGAGCCTGAT	6240
TAATACAGCC ATCGTCATCT TTGCTGGTTC GGCTGTACTT TTGAATGATA AGTCTATTGA	6300
AACAAGTACA GCCCTAGGTT TGATTGTAT GTTTGCACAA TTTTCACAGC AGTACTACCA	6360
GCCTATTATC CAAGTTGCAG CGAGTTGGGG AAGCCTTCAG TTGGCCTTTA CTGGAGCTGA	6420
ACGAATTCAG GAAATGTTT ATGCAGAGGA GGAAATCCGA CCTGAAAAGG CTCCAACCTT	6480
CACTAAGTTG CAAGAAAGTG TTGAAATCAG TCATATCGTT TTTTCATACT TGCCTGATAA	6540
ACCTATTTTG AAAGATGTCA GCATTTCTGC CCCTAAAGGC CAGATGACAG CAGTTGTTGG	6600
GCCGACAGGT TCAGGAAAAA CGACTATTAT GAACCTCATC AATCGCTTTT ATGATGTTGA	6660
TGCTGGTGGT ATTTATTTTG ATGGTAAAGA CATTGCTGGC TATGACTTAG ATAGTCTTAG	6720
AAGCAAGGTG GGAATTGTAT TGCAAGATTC GGTCTTGTTC AGCGGAACGA TTAGAGACAA	6780
TATCCGATTT GGTGTGCCAG ATGCTAGTCA GGAAATGGTT GAGGTAGCAG CAAAAGCAAC	6840
CCACATTCAC GACTATATCG AAAGTTTGCC TGATAAGTAC GATACTCTTA TTGATGATGA	6900
CCAGAGCATC TTTTCAACAG GGCAGAAGCA ATTGATTTCA ATCGCTCGAA CCCTGATGAC	6960
AGATCCAGAA GTTCTCATTC TCGATGAAGC AACTTCAAAC GTAGATACGG TGACAGAAAG	7020
CAAGATTCAG CATGCCATGG AGGTGGTTGT AGCAGGTAGA ACTAGTTTCG TCATTGCCCCA	7080
CCGCTTGAAG ACCATTCTCA ATGCAGATCA GATTATTGTC CTTAAAGATG GAGAAGTCAT	7140
TGAACGTGGT AACCACCATG AACTTTTGAA GCTAGGTGGC TTTTATTTCAG AACTCTATCA	7200
CAATCAATTT GTTTTCGAAT AAGAAAGAAG TTGTCCTATG TGGGCAGCTT TTTCTGTCC	7260
ATAAAAAATG TTTATCACAG CCTTAAAAAA AACATATTAG ACGAAAGTCA TTTTGAGTGA	7320
TATGATAGGA CTATCGTTAG CATTCGAAAG GAGAGGCATC ATGGCTAGAA CGGTTGTAGG	7380
AGTTGCTGCA AATCTATGTC CCGTAGACGC AGAAGGCAAA ATCATTCATT CATCTGTATC	7440

537

TTGTAGATTC GCAGAGATCA TTCGTCAAGT CGGTGGTCTC CCTTTAGTCA TTCCTGTTGG	7500
TGATGAGTCA GTTGTACGTG ATTATGTGGA AATGATTGAC AAACATCATTT TGACAGGAGG	7560
CCAAAATGTT CATCCTCAGT TTTATGGAGA GAAAAAGACC GTCGAGAGCG ATGATTACAA	7620
TCTGGTCCGT GACGAATTTG AATTGGCACT CTTGAAGGAA GCGCTTCGTC AGAATAAACC	7680
AATTATGGCA ATCTGTCGCG GTGTCCAAC TGTCAATGTT GCCTTTGGTG GAACCCCTCAA	7740
TCAAGAAATC GAAGGTCAGG	7760

(2) INFORMATION FOR SEQ ID NO: 64:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 2723 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: double
 - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 64:

GAGGTTTTAA TTCACCTACC TCTSCGTAT CTTTATTTAA AATGAATCT TTTACGGTTG	60
TATTTCTTGC AAAATCTTTT ACAACAATCT TAATGTTTAG TGTCTTGCTT ATTATTTGTT	120
TAATATCATT AAATGATGTA TATTTCTTTC CATTATATA AATATGTTGT TCTTGAATCT	180
CACCATCGAA TCCATTATTT CTTTATCAT TGATGTTAAA GACTACAGAT TTTCCATCAG	240
CATATTCGAT ACTAGTATTT CCCTTAGGAT CAATGTTTAC TTCGGGTTTA ACATTATCAT	300
ATAAAAAC TG ATAGTGGACT CCAACTGCTT TAGCATTCAA ATCGCTATAG CCAGTTTGAA	360
GATAAACATT TCCATCCATA TCTGTTACCT TATCTGGAAA TCCGTTTGCT TTATAGTCTT	420
TCATTCCCCA GTCCATGATG TCACCGTCTT TAACATTCAG CTTAATATTA AAATCTCTAG	480
TGTTATCAAT GTGTAAATCT CCGTAGATTA AATAATTATC TACAACCGAT TCATTAACCTC	540
TCAATTCCCA GTTAAAACCA CCCTTATCAG AAATCTTACC TCTTAAATAA AATTCTGGAT	600
TTCGTACATA AATTTTATTA GATTTAGATG GATTAAAGTA GTTCTTATCC ATTGAAAGGT	660
TTACTGGTTT GGTATCAATA AATAACATGG AGCCATCTTC TTTTATAGCT TCTACATTGA	720
ACTTATCCTC TCCAGTGTAT TCTTATCAT CCTTACCAA TAATACAAGT TTAGAAGAAT	780
CTGTCACAAG ATTTCCGTCT TTATCGATAG CTTCCTCTT ATCGTTCATT TTAAATGTAA	840
ACACTTGATA CCTTATAATG TTAAAGCCGT CCAAAGCCGA CATTAATACA GATTGGGTAC	900
TTCTTCCATC TTCAACATTT CTACTATCAG CATAAATTGT TGTTTCTGAA AGGGCTCTTA	960
GATTAGGATT GGCCCTTTGT ATTTTGTGTA TATCTTCCTT GCTATAGACT CCATTTCTCT	1020

538

CTAACATATC CGTTTTTCCA GGATTATAGG TAGTCACTTT TAGTGCATAG CCTTTTCTTA	1080
GAATGATATT ATCCTTTAAC AGATATTGTT GTTTTTCTGA ATCAGAATAG ATTTTACCAG	1140
ATTCCATTTT AGTTAAATG TCTGGTTTGT TTTTTGAAAG ATCTCCTTCC CCTAATTCTA	1200
TGACATTCCC ATAAC TTGAT ACATAGGGAT ATTCTGATTT AGTTTCCTTA ATTTTTCAG	1260
GCATTCTAAT TTTAATTCA GCTTTTTTCT GATCATTATC TTTAACAAAT AATCTCATAT	1320
CTCCTGCAAA AGCTAATCCA TCCACAATAT CATTAATATT AGCGTATAGA TCAAATGTCA	1380
TCGTTTTTGA GTGGAAATCA TACTTGGTCG CTTTGATTTC TATAGATTTA TAGTTATTCC	1440
CATAATATAC CTTGGCATT TTAGAAACAT TACTTATCTT TCCAAGAATT TCAAAGTGTC	1500
CATCTTTAGA CGGACTTAGA ACACCATAAA TTTTGTGATT GATTTTCGTC AGTTTCTCAG	1560
TTTCATATTC TAGATCAGTC CCATCATCGT AGGCTATTAT ATTTCTTTTA TCATCGTATT	1620
TATAATCGTA TTCCTCCATT CTCTTACCAG TTTCATTGT AAAATCATCA ACTTCTCTAA	1680
ATTTCTTTTT AATGAGTTT TTTAAGTCTT TATTTTCAAA GTCTCTAATT GTTGAAATAT	1740
TTCTATCAAT AGTAAACTA GATTTTCTT TAATAGACTC TTCATTTTCT TGATGATGAT	1800
GTTCTACCCC AGTTGTATCT TTTTTTAGAC TACCCCTCTT TCCATTTCTT AAATTTTAA	1860
ATTTAGATTC TGCAATCTCG CCAAGCTTTT GATATTAGA TGAATCTGA TCAGGATCTA	1920
CTAGATAATA GGAAATCATC CCCTTTTCAT CAGCCTGATT AGCAAATTTA ATTCTATGAA	1980
TCTTTGTGAA ATTGCTAGAA CCATCTAATG CAATGACTTC AATGATTTT CCCCTTAAAT	2040
CTCCCGCACC TTTAATTCA TAAATGGTAT TTCCGTCTT ATCAAGTTT CTATTTCTTC	2100
CTTGACCCCT ACCTGCGTAA GTTACTTCAA GATTTTTC AACCTCTCCA TCTTCATTAA	2160
CAAGAGCGGC GCCAGCATAC CAACTTCGT TCGCAATCTC GTCAAATTTT TCAGGATGTT	2220
CTTTTGATC TCTCGCAAAT AGCGTTTCAT TCTTATACTG ATCTTTTACC TTATGATAAG	2280
TATCCTTTGT AATCAACTTA ATTTTTCAG GATTTGAAAA ATCAACCGAA ACAATCTTAG	2340
GGGCGGTGTT ATCAATTTT ACAGGAATAT AGGAAACCTG CCATGGGTAA TCTTTAGTTA	2400
ATCTATATTT AAATTTATAG AAATATTGAC CTTCGCAAT CGGTTCAAAT TGACCTCTTA	2460
TCTTAGTAGC AGGATCTTGA TTATCCTTAC TTTCTGGTGC ATTTTCTTCT CTACCTCTAG	2520
GATTATAGAT GAGTCCATCC CACTTCAAGT CACCCCAAAC TTTTAGTTTA GATGATTGTA	2580
TTCCCTTTCG ATCATTGCTT TTAGAATTTA AAATTCCTCT AATAAAGTGT TCTCTCGAAA	2640
TGACTTTTAA GTCTCTTGA TTTCTCCCT CTTTATTTGT ATTTACTATT GAAATCAATC	2700
CTTCTTCTGC ACTTCTTAAT ACA	2723

(2) INFORMATION FOR SEQ ID NO: 65:

539

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 11831 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: double
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 65:

AAAAAAGTGG GAATGACTCA AATCTTCACT GAAGCTGGCG AATTGATCCC TGTAACAGTT	60
ATTGAAGCAA CTCCAAACGT TGTCTTCAA GTTAAACTG TTGAAACAGA CGGATACAAC	120
GCTATCCAAG TTGGTTTCGA TGACAAACGC GAAGTATTGA GCAACAAACC TGCTAAAGGA	180
CATGTAGCGA AAGCTAACAC GGCTCCTAAG CGCTTCATTC GTGAATTCAA AAACGTTGAA	240
GGCTTGGAAG TTGGTGCTGA AATTACAGTT GAAACATTGC CAGCTGGAGA CGTTGTTGAC	300
GTAACGGGTA CTTCTAAAGG TAAAGGTTTC CAAGGTGTTA TCAAACGCCA CGGACAATCA	360
CGTGGACCAA TGGCTCACGG TTCTCGTTAC CACCGTCGTC CAGGTTCTAT GGGGCTGTT	420
GCACCTAACC GCGTATTCAA AGGTAAAAAC CTGCGAGGAC GTATGGGTGG CGACCGCGTA	480
ACAATTCAAA ACCTTGAAGT TGTACAAGTT GTTCCAGAAA AGAACGTTAT CCTTATCAAA	540
GGTAACGTAC CAGGTGCTAA GAAATCTCTT ATCACTATCA AATCAGCAGT TAAAGCTGGT	600
AAATAATAAA GAAAGGGGAA ATCAGTCACA ATGGCAAACG TAACATTATT TGACCAAAC	660
GCTAAAGAAG CTGGCCAAGT TGTCTTAGC GATGCAGTAT TTGGTATCGA ACCAAATGAA	720
TCAGTTGTGT TTGATGTAAT CATCAGCCAA CGCGCAAGCC TTCGTCAAGG AACACACGCT	780
GTTAAAAACC GCTCTGCAGT ATCAGGTGGT GGACGCAAAC CATGGCGTCA AAAAGGAACT	840
GGACGTGCTC GTCAAGGTTT TATCCGCTCA CCACAATGGC GTGGTGGTGG TGTGTCTTC	900
GGACCAACTC CACGTTTATA CGGCTACAAA CTTCCACAAA AAGTTCGTCG CCTAGCTCTT	960
AAATCAGTTT ACTCTGAAAA AGTTGCTGAA AACAAATTCG TAGCTGTAGA CGCTCTTTCA	1020
TTTACAGCTC CAAAACTGC TGAATTTGCA AAAGTTCTTG CAGCATTGAG CATCGATTCT	1080
AAAGTTCTTG TTATCCTTGA AGAAGGAAAT GAATTCGCAG CTCTTTCAGC TCGTAACCTT	1140
CCAAACGTGA AAGTTGCAAC TGCTACAACG GCAAGTGTTT TTGACATCGC AAATAGCGAC	1200
AAACTTCTTG TCACACAAGC AGCTATCTCT AAAATCGAGG AGGTTCTTGC ATAATGAATT	1260
TGTATGATGT TATCAAAAAA CCTGTCATCA CTGAAAGCTC AATGGCTCAA CTTGAAGCAG	1320
GAAATATATG ATTTGAAGTT GACACTCGTG CACACAACT TTTGATCAAG CAAGCTGTTG	1380
AAGCTGCTTT CGAAGGTGTT AAAGTTGCCA ATGTTAACAC AATCAACGTA AAACCAAAG	1440

540

CTAAACGTGT TGGACGTTAC ACTGGTTTTA CTAACAAAAC TAAAAAAGCT ATCATCACAC	1500
TTACAGCTGA TTCTAAAGCA ATCGAGTTGT TTGCTGCTGA AGCTGAATAA TCTAAGGAGG	1560
AAATATCGTG GGAATTCGTG TTTATAAACC AACACAAAAC GGTGCGCCGT ATATGACTTC	1620
TTTGGAATTTC GCTGAAATCA CAACAAGCAC TCCTGAAAAA TCATTTGCTTG TTGCATTGAA	1680
GAGCAAGGCT GGTGTAACA ACAACGGTCG TATCACAGTT CGTCACCAAG GTGGTGGACA	1740
CAAACGTTTC TACCGTTTGG TTGACTTCAA ACGTAATAAA GACAACGTTG AAGCAGTTGT	1800
TAAACAATC GAGTACGATC CAAACCGTTC TGCAACATC GCTCTTGCTAC ACTACACTGA	1860
CGGTGTGAAA GCATACATCA TCGCTCCAAA AGGTCTTGAA GTAGGTCAAC GTATCGTTTC	1920
AGGTCCAGAA GCAGATATCA AAGTCGAAA CGCTCTTCCA CTTGCTAACA TCCCAGTTGG	1980
TACTTTGATT CACAACATCG AGTTGAAACC AGGTCGTGGT GGTGAATTGG TACGTGCTGC	2040
TGGTGCATCT GCTCAAGTAT TGGGTCTGA AGGTAAATAT GTTCTTGTTT GTCTTCAATC	2100
AGGTGAAGTT CGTATGATTC TTGGAACCTG CCGTGCTACA GTTGGTGTG TCGGAAACGA	2160
ACAACATGGA CTTGTAAACC TTGGTAAAGC AGGACGTAGC CGTTGGAAAG GTATCCGCCC	2220
AACAGTTTCGT GGTCTGTAA TGAACCTTAA CGATCACCCA CACGGTGGTG GTGAAGGTAA	2280
AGCACCAAGT GGTGCTAAAG CACCATCTAC TCCATGGGGC AAACCTGCTC TTGGTCTTAA	2340
AACTCGTAAC AAGAAAGCGA AATCTGACAA ACTTATCGTT CGTCGTCGCA ACGAGAAATA	2400
ATAATTAACT AGTCGCTTAA GCAACTAGTA AATCCGCCAG CTCGCTAGCG CTCCATAGGA	2460
GTGCAAGCCG CTGTGGTACA ACATTTAAAG GAGAAAATAT AAAAAAGGGA CGCAGTCTTA	2520
AAAAAGGACC TTTCGTCGAT GAGCATTTGA TGAAAAAGT TGAAGCTCAA GCTAACGACG	2580
AAAAGAAAAA AGTTATTAAA ACTTGGTCAC GTCGTTCAAC GATCTTCCCA AGTTTCATTG	2640
GTTACACTAT TGCAGTTTAT GACGGACGTA AACACGTACC TGTTTACATC CAAGAAGACA	2700
TGGTAGGCCA CAAACTTGGT GAATTTGCAC CAACTCGTAC TTACAAAGGT CACGCTGCAG	2760
ACGACAAGAA AACACGTAGA AAATAAGGAG AACATAAATG GCAGAAATTA CTTACGCTAA	2820
AGCAATGGCT CGTACAGTAC GTGTTTCACC TCGTAAATCA CGTCTTGTTT TTGATAACAT	2880
CCGTGGTAAA AGCGTAGCCG ATGCAATCGC AATCTTGACA TTTACTCCAA ACAAAGCTGC	2940
TGAAATCATC TTGAAAGTTT TGAACTCAGC TGTAGCTAAC GCTGAAAACA ACTTTGGTTT	3000
GGATAAAGCT AACTTGGTAG TATCTGAAGC ATTCGCAAAC GAAGGACCAA CTATGAAACG	3060
TTTCCGTCCA CGTGCGAAAAG GTTCAGCTTC ACCAATCAAC AAACGTACAG CTCACATCAC	3120
TGTAGCTGTT GCAGAAAAAT AAGGAGGTAA AATCGTGGGT CAAAAAGTAC ATCCAATTGG	3180
TATGCGTGTC GGCATCATCC GTGATTGGGA TGCCAAATGG TATGCTGAAA AAGAATACGC	3240

541

GGATTACCTT CATGAAGATC TTGCAATCCG TAAATTCGTT CAAAAAGAAC TTGCTGACGC	3300
AGCAGTTTCA ACTATTGAAA TCGAACGCGC AGTAAACAAA GTTAACGTTT CACTTCACAC	3360
TGCTAAACCA GGTATGGTTA TCGGTAAAGG TGGTGCTAAC GTTGATGCaC TCCGTGCAAA	3420
ACTTAACAAA TTGACTGGAA AACAAGTACA CATCAACATC ATCGAAATCA AACAACTGA	3480
TTTGGATGCT CACCTTGTAG GTGAAGGAAT TGCTCGTCAA TTGGAGCAAC GTGTTCGTTT	3540
CCGTCGTGCA CAAAAACAAG CAATCCAACG TGCAATGCGT GCTGGAGCTA AAGGAATCAA	3600
AACTCAAGTA TCAGGTCGTT TGAACGGTGC AGATATCGCC CGTGCTGAAG GATACTCTGA	3660
AGGAACTGTT CCGCTTACAC CACTTCGTGC AGATATCGAT TACGCTTGGG AAGAAGCAGA	3720
TACTACATAC GGTAAACTTG GTGTTAAAGT ATGGATCTAC CGTGGTGAAG TTCTTCCAGC	3780
TCGTAAAAAC ACTAAAGGAG GTAAATAACC AATGTTAGTA CCTAAACGTG TTAACACCG	3840
TCGTGAGTTC CGTGGAAAAA TGC GCGGTGA AGCAAAAGGT GGAAAAGAAG TAGCATTCGG	3900
TGAATACGGT CTCAAGCTA CAACTAGCCA CTGGATCACT AACCGCCAAA TCGAAGCTGC	3960
TCGTATCGCC ATGACTCGTT ACATGAAACG TGGTGGTAAA GTTGGATTA AAATCTTCCC	4020
ACACAAATCA TACACTGCTA AAGCTATCGG TGTGCGTATG GGATCTGGTA AAGGGGCACC	4080
TGAAGGTTGG GTAGCACCAG TTAACGTGG TAAAGTGATG TTCGAAATCG CTGGTGTATC	4140
TGAAGAGATT GCACGTGAAG CGCTTCGACT TGCTAGCCAC AAATTGCCAG TTAAATGTAA	4200
ATTCGTAAAA CGTGAAGCAG AATAAGGAGA AGGCATGAAA CTTAATGAAG TAAAAGAATT	4260
TGTTAAAGAA CTTCTGGTTC TTTCTCAAGA AGAACTCGCG AAGCGCGAAA ACGAATTGAA	4320
AAAAGAATTG TTTGAACCTC GTTTCCAAGC TGCTACTGGT CAATTGGAAC AACAGCTCG	4380
CTTGAAAGAA GTTAAAAAAC AAATCGCTCG CATCAAAACA GTTCAATCTG AAGCGAAATA	4440
ATAGACTAGG GAAGGAGAAA TTTCAATGGA ACGCAATAAT CGTAAAGTTC TTGTTGGACG	4500
TGTTGTATCT GACAAAATGG ACAAGACAAT CACAGTTGTA GTTGAAACAA AACGTAACCA	4560
CCCAGTCTAT GGTAAACGTA TTAACCTCTC TAAAAAATAC AAAGCTCATG ATGAAAACAA	4620
TGTTGCCAAA GAAGGCGATA TCGTACGTAT CATGGAAACT CGCCCGCTTT CAGCTACAAA	4680
ACGTTTCCGT CTTGTAGAAG TTGTTGAAGA AGCGGTCATC ATCTAATCAA ACCTGAAAGG	4740
AGAAAACCTGA AATGATTCAA ACAGAACTC GTTTGAAAGT CGCAGACAAC AGCGGTGCTC	4800
GCGAAATCTT GACTATCAAA GTTCTTGGTG GTTCAGGACG TAAATTTGCA AACATCGGTG	4860
ATGTTATCGT GGCATCTGTA AAACAAGCTA CTCCTGGTGG TGCGGTTAAA AAAGGTGACG	4920
TTGTTAAAGC AGTTATCGTT CGTACTAAAT CAGGTGCTCG TCGTGCTGAT GGTTCATACA	4980

542

TCAAATTTGA CGAAAACGCA GCAGTTATCA TCCGTGAAGA CAAAACTCCT CGCGGAACAC	5040
GTATCTTTGG CCCAGTTGCA CGTGAATTGC GTGAAGGTGG CTTTCATGAAG ATCGTGTAC	5100
TTGCTCCAGA AGTACTTTAA TTTTATAGGAA CAAACTAGTC CCCTAGCTTC AAGCTAGGGT	5160
GCCCTTATGG GCGTAAGAAA AATCAAGGAG AAACCTAATG TTTGTAAAAA AAGGCGACAA	5220
AGTTCGCGTA ATCGCTGGTA AAGATAAGGG AACAGAAGCT GTTGTCTTA CTGCCCTTCC	5280
AAAAGTAAAC AAAGTTATCG TTGAAGGTGT TAACATTGTT AAGAAACACC AACGTCCAAC	5340
TAACGAGCTT CCTCAAGGTG GTATCATCGA GAAAGAAGCA GCTATCCACG TATCAAACGT	5400
TCAAGTTTGG GACAAAAATG GTGTAGCTGG TCGTGTGGA TACAAATTTG TAGACGGTAA	5460
AAAAGTTCGC TACAACAAAA AATCAGGCGA AGTGTCTGAT TAATCAGGAA GAAAGGAGA	5520
AGTATAATGG CAAATCCTTT AAAAGAAAAA TATCTTAATG AAGTAGTTCC TGCTTTGACA	5580
GAACAATTCA ACTACTCATC AGTGATGGCT GTGCCTAAAG TAGATAAGAT TGTTTTGAAC	5640
ATGGGTGTTG GTGAAGCTGT ATCAAACGCT AAAAGCCTTG AAAAAGCTGC TGAAGAATTG	5700
GCACTTATCT CAGGTCAAAA ACCACTTATC ACTAAAGCTA AAAATCAAT CGCCGGCTTC	5760
CGTCTTCGTG AAGGTGTTGC GATCGGTGCA AAAGTTACCC TTCGTGGTGA ACGTATGTAC	5820
GAATCTTGG ATAAATGGT ATCAGTTTCA CTTCCACGTG TACGTGACTT CCACGGTGTC	5880
CCAACAAAAT CATTTGATGG ACGCGGGAAC TACACACTTG GTGTGAAAGA ACAATTAATC	5940
TTCCCAGAAA TCAACTTCGA TGACGTTGAC AAAACTCGTG GTCTTGACAT CGTTATCGTA	6000
ACAACTGCTA ACACTGACGA AGAGTCACGT GCATTGCTTA CAGGCCTTGG AATGCCTTTT	6060
GCAAAATAAT ATAGGAGGTA AATCTAATGG CTAAAAATC AATGGTAGCT AGAGAGGCTA	6120
AACGCCAAAA AATTGTTGAC CGTTATGCTG AAAAACGTGC TGCATTAAAG GCGGCAGGGG	6180
ACTACGAAGG TTTATCTAAA TTACCTCGCA ACGCCTCACC GACTCGTTTA CATAATCGTT	6240
GTAGGGTTAC GGGGCGCCCA CATTCAGTTT ACCGCAAATT TGGTCTGAGT CGTATCGCTT	6300
TTCCGGAAC TCGGCATAAA GGTCAAATTC CTGGTGTAAC AAAAGCATCT TGTAATTTA	6360
AGATATCAAG AGCGTCAAAA CTCCAAGTAA AAATAGGAAA CTTGACGAAG AACTAAAGT	6420
TTCTAGGAAA GTTTATCTTT TTCACACAGA GTTTAGCCCG GGTTCAAATG GGCTTGCCAA	6480
TTTGAACACG AGCTACAGCT TTGGCAAAAA AGACCAATTT GCTTTGGAGC ATTGCTTCTG	6540
CATTAAATTG TCTATTTTGG CTCGTGCTGT TACGCTCTT GTATCATGTA TTAAC TAGCA	6600
AGTGCAACTT GCAAACTACT AGTAAGAGGA GAAAAACAAA ATGGTTATGA CTGACCCAAT	6660
CGCAGACTTC CTAACCTGTA TTCGTAATGC TAACCAAGCT AAACACGAAG TACTTGAAGT	6720
ACCTGCATCA AACATCAAAA AAGGGATTGC TGAAATCCTT AAACGCGAAG GTTTTGTA	6780

543

AAACGTTGAA ATCATTGAAG ATGACAAACA AGGCGTCATC CGTGTATTTT TTAATACGG	6840
ACCAAATGGT GAGAAAGTTA TCACTAAGTT GAAACGTGTT TCTAAACCAG GACTTCGTGT	6900
CTACAAAAAA CGTGAAGACC TTCCAAAAGT TCTTAACGGA CTGGAATTG CCATCCTTTC	6960
AACTTCTGAA GGTTCGCTTA CTGATAAAGA AGCACGCCAA AAGAATGTTG GTGGTGAGGT	7020
TATCGCTTAC GTTTGGTAAA ATCAAGATAC AAAGCTCGTA AAGAACAAG CAAAATTAGG	7080
AAGTTGGAGA AGTTTGTTTA CAAACAAGCC AACTTATCTA TTTTGACAGC TTCTTAGAGC	7140
GTGTTGAGTT CAGCTCTTGA ACTAAATAAG TATCTGAACC CCGTGAAAAC TGGCCGTTCT	7200
GGCCTGACAA TTAAACAGGA GAAAATAAAC ATGTCACGTA TTGGTAATAA AGTTATCGTG	7260
TTGCCTGCTG GTGTTGAACT CGCTAACAAT GACAACGTTG TAACTGTAAA AGGATCTAAA	7320
GGAGAACTTA CTCGTGAGTT CTCAAAAGAT ATTGAAATCC GTGTGGAAGG TACTGAAATA	7380
ACTCTTCACC GTCCAAACGA TTCAAAGAA ATGAAAATA TCCACGGAAC TACTCGTGCC	7440
CTTTTGAACA ACATGCTTGT TGGTGTATCA GAAGGATTCA AGAAAGAACT TGAAATGCGT	7500
GGGGTTGGTT ACCGTGCACA GCTTCAAGGA TCTAAACTTG TTTTGGCTGT TGGTAAATCT	7560
CATCCAGACG AAGTTGAAGC TCCAGAAGGA ATTACTTTTG AACTTCCAAA CCCAACAACA	7620
ATCGTTGTTA GCGGAATTTT AAAAGAAGTA GTTGGTCAAA CAGCTGCTTA CGTACGTAGC	7680
CTTCGTTTAC CAGAACCATA TAAAGGTAAA GGTATCCGTT ACGTTGGTGA ATTGTTTCGC	7740
CGTAAAGAAG GTAAAACAGG TAAATAATGT TGAGTGGTTG ATCATCAACC ACCAACCTAT	7800
TTTCCAACCT TGTGCATAGC ACACGATTTA AAATAAAGA GGTGAAAAC GTGATTTCAA	7860
AACCAGATAA AAACAACTC CGCCAAAAC GCCACCGTCG CGTTCGCGGA AACTCTCTG	7920
GAACGCTGA TCGCCACGT TTGAACGTAT TCCGTTCTAA TACAGGCATC TACGCTCAAG	7980
TGATTGATGA CGTAGCGGT GTAACGCTCG CAAGTGCTTC AACTCTTGAT AAAGAAGTTT	8040
CAAAGGAAC TAAAACGAA CAAGCCGTTG CTGTCGGTAA ACTCGTTGCA GAACGTGCAA	8100
ACGCTAAAGG TATTTAGAA GTGGTGTTCG ACCGCGGTGG ATATCTATAT CACGGACGTG	8160
TGAAAGCTTT GGCTGATGCA GCTCGTGAAA ACGGATTGAA ATTCTAATAG GAGGACACTA	8220
GAAAATGGCA TTAAAGACA ATGCAGTTGA ATTAGAAGAA CGCGTAGTTG CTGTCAACCG	8280
TGTTACAAAA GTTGTAAAG GTGGACGTCG TCTTCGTTTC GCAGCTCTTG TTGTTGTTGG	8340
TGACCACAAT GGTGCGGTAG GATTTGCTAC TGGTAAAGCT CAAGAAGTTC CAGAAGCAAT	8400
CCGTAAAGCA GTAGATGATG CTAAGAAAA CTTGATCGAA GTTCCTATGG TTGGAACAAC	8460
AATCCACAC GAAGTTCTTT CAGAATTCGG TGGAGCTAAA GTATTGTTGA AACCTGCTGT	8520

544

AGAAGGTTCT GGAGTTGCCG CTGGTGGTGC AGTTCGTGCC GTTGTGGAAT TGGCAGGTGT	8580
GGCAGATATT ACATCTAANT CACTTGGTTC TAACACTCCA ATCAACATTG TTCGTGCAAC	8640
TGTTGAAGGT TTGAAACAAT TGAACGCGC TGAAGAAAT GCTGCCCTTC GTGGTATTTT	8700
AGTTTCTGAT TTGGCATAAG AAAGGGGATA AAATGGCTCA AATTAAAATT ACTTTGACTA	8760
AGTCTCCAAT CGGACGCATT CCATCACAAC GTAAACTGT TGTAGCACTT GGA CT TGGCA	8820
AATTGAACAG CTCTGTTATT AAAGAAGATA ACGCTGCTAT CCGTGGTATG ATCACAGCAG	8880
TATCTCACTT AGTAACAGTT GAAGAAGTAA ACTAATGAaG TTTTAGGGGA TGTGCACTGT	8940
ACCATCCCCCT AAAACTAGAT ATAGTCATCT ATGATGACAT CGTATAGGCG AGTTGATGGG	9000
GGAGACAACC TTTTCTCCCT TATCGGCGCT AGCATTTTAC AAAAGAGGAG AAAATAAAAA	9060
TGAAACTTCA TGAATTGAAA CCTGCAGAAG GTTCTCGTAA AGTACGTAAC CGCGTTGGTC	9120
GTGGTACTTC ATCAGGTAAC GGTAAAACAT CTGGTCTGTTG TCAAAAAGGT CAAAAAGCTC	9180
GTAGCGGTGG CGGAGTTGCG CTTGGTTTTG AAGGTGGACA AACTCCATTG TTCCGTCGTC	9240
TTCCAAAACG TGGATTCACT AACATCAACG CTAAAGAATA CGCAATTGTG AACCTTGACC	9300
AATTGAACGT CTTTGAAGAT GGTGCTGAAG TAACTCCAGT TGTTCCTTATC GAAGCAGGAA	9360
TTGTTAAAGC TGAAAAGTCA GGTATTAAAA TTCTTGGTAA CGGTGAGTTG ACTAAGAAAT	9420
TGACTGTGAA AGCAGCTAAA TTCTCTAAAT CAGCTGAAGA AGCTATCACT GCTAAAGGTG	9480
GTTCAGTAGA AGTCATCTAA GAGAGGTGAC CTATGTTTTT TAAATTATTA AGAGAAGCTC	9540
TTAAAGTCAA GCAGGTTCGA TCAAAAATTT TATTTACAAT TTTTATCGTT TTGGTCTTTC	9600
GTATCGGAAC TAGCATTACA GTTCCTGGTG TGAATGCCAA TAGCTTGAAT GCTTTAAGTG	9660
GATTATCCTT CTAAACATG TTGAGCTTGG TGTGCGGGAA TGCCCTAAAA AACTTTTCGA	9720
TTTTTGCCCT AGGAGTTAGT CCCTATATCA CCGCTTCTAT TGTGTGCCAA CTCTTGCAAA	9780
TGGATATTTT ACCCAAGTTT GTAGAGTGGG GTAAACAACG GGAAGTAGGT CGAAGAAAAT	9840
TGAATCAAGC TACTCGTTAT ATTGCTCTAG TTCTCGCTTT TGTGCAATCT ATCGGGATTA	9900
CAGCTGGTTT TAATACCTTG GCTGGAGCTC AATTGATTAA AACTGCTTTA ACTCCACAAG	9960
TTTTTCTGAC GATTGGTATC ATCTTAACAG CTGGTAGTAT GATTGTCACT TGGTTGGGTG	10020
AGCAAATTAC AGATAAGGGA TACGGAAACG GTGTTTCCAT GATTATCTTT GCCGGGATTG	10080
TTTCCTCAAT TCCAGAGATG ATTCAGGGCA TCTATGTGGA CTA CT TTTGTG AACGTCCCAA	10140
GTAGCCGTAT CACTTCATCT ATCATTTTCG TAATCATTTT GATTATTACT GTATTGTTGA	10200
TTATTTACTT TACAACTTAT GTTCAACAAG CAGAATACAA AATTCCAATC CAATATACTA	10260
AGGTTGCACA AGGTGCTCCA TCTAGCTCTT ACCTTCCGTT AAAAGTAAAC CCTGCTGGAG	10320

545

TTATCCCTGT TATCTTTGCC AGTTCGATTA CTGCAGCCTG CGGCTATTCT TCAGTTTTTG	10380
AGTGCCACAG GTCATGATTG GGCTTGGGTA AGGGTAGCAC AAGAGATGTT GGCAACTACT	10440
TCTCCAAC TG GTATTGCCAT GTATGCTTTG TTGATTATTC TCTTTACATT CTTCTATACG	10500
TTTGTCACAGA TTAATCCTGA AAAAGCAGCA GAGAkCCTAC AAAAGAGTGG TGCCTATATC	10560
CATGGAGTTC GTCCTGGTAA AGGTACAGAA GAATATATGT CTAAACTTCT TCGTCGTCTT	10620
GCAACTGTTG GTTCCCTCTT CCTTGGTGTG ATTTCCATT TACCGATTGC AGCTAAAGAT	10680
GTATTTGGTC TTTCTGATGT TGTGTCCTTT GGTGGAACAA GTCTCTTGAT CATTATCTCT	10740
ACAGGTATCG AAGGAATCAA GCAATTGGAA GGTTACCTAT TGAAACGTAA GTATGTTGGT	10800
TTTCATGGACA GAACAGAATA AAAGTATTTA CTGAATCAGT AAATACTGAG GGAGTGGAGG	10860
TTTAAACTCT GACATTTGTA AGAGTTGGAT CTCCCCTCTT CTATTTTGT TTTAAATCGG	10920
GGTGAAAAGA CTTTTTGCTT CTATTTAAAA ATAAAATAAG GAGATCAAAT CATGAATCTT	10980
TTGATTATGG GCTTACCTGG TGCAGGTAAG GGAACCAAG CAGCAAAAAT CGTAGAACAA	11040
TTCCATGTTG CACATATCTC AACAGGTGAT ATGTTCCGCG CTGCAATGGC AAATCAAAC	11100
GAAATGGGTG TTCTTGCTAA GTCATATATT GACAAGGGTG AATTGGTTCC TGACGAAGTT	11160
ACAAATGGAA TCGTAAAAGA ACGCCTTTCA CAAGATGATA TTAAAGAAAC AGGATTTCTTA	11220
TTGGATGGTT ACCCAGTAC AATTGAACAA GCTCATGCCT TGGACAAAAC ATTGGCTGAA	11280
CTTGGCATTG AACTAGAAGG TGTATCAAT ATTGAAGTGA ACCCTGACAG CCTTTTGGAA	11340
CGTTTGAGTG GCGGTATCAT CCACCGCGTA ACTGGAGAAA CTTTCCACAA GGTCTTTAAC	11400
CCACCAGTTG ACTATAAAGA AGAAGATTAC TACCAACGTG AAGATGATA GCCTGAGACA	11460
GTAAAACGTC GTTTGGATGT TAATATTGCT CAAGGAGAAC CAATCATTGC TCACTACCGT	11520
GCCAAAGGTT TGGTTCATGA CATCGAAGGT AATCAAGATA TCAATGATGT CTTCTCAGAT	11580
ATTGAAAAAG TATTGACAAA TTTGAAATAA AGCGTTTTC AACTTGCAA AAATCCGCTA	11640
CAAATGTTAT ACTGAGATAG TCTGACTTAT AATTGTTGTC TCTGTGTC TA GAGGCATCGA	11700
ATCGAAATTT ATGGAGGTGC TTTTCCGTGG CAAAAGACGA TGTGATTGAA GTTGAAGGCA	11760
AAGTAGTTGA TACAATGCCG AATGCAATGT TTACGGTTGA ACTTGAAAAT GGACATCAGA	11820
TTTTAGCAGG G	11831

(2) INFORMATION FOR SEQ ID NO: 66:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 10726 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: double

546

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 66:

CCCGGCATTT GAAAGCTATT CGTGAAGGAT TTATGATGGC AATGCCTTTG ATTTTAGTCG	60
GCTCTTTATT TCTTATTCTA ATCAGTTGGC CTCAAGAGGC TTTTACAAAT TGGCTGAATA	120
GTGTTGGATT GCTAAGTATC TTGACAACTA TGAATCAGTC AACAGTAGCG ATTATCTCCT	180
TGGTCGCTTG TTTCGGTATT GCCTACAGGT TGTCGGAAGG ATATGGTACA GATGGTCCGT	240
CGGCAGGGAT CATAGCCTTA TCCAGTTTGG TATTGATGGC ACCTCGTTTT TCGAGTATGG	300
TTTATGATAA AAATGGGGAG CAGGTCAAGC AGTTATTTGG CGGCGCAATA CCATTTTCTA	360
GCCTGAATGC ATCTTCTTTG TTTATGGCGA TTACTATTGG ATTGGTTACA GCAGAGATTT	420
ATCGTATGTT TATCCAGCGC GGAATTACGA TAAAAATGCC AAGTGGTGTC CCAGATGTAG	480
TAAGTAAATC ATTTTCAGCT CTTTTATCTG GTTTTACTAC TTTTGTTTTG TGGGCTTTGG	540
TCTTAAAGG TCTTGAAGCG GCAGGAGTTG CAGGAGGTCT CAACGGAATC CTAGGTGCAA	600
TTGTTGGAAC ACCGCTTAAG TTAATTGCAG GAACGCTTCC AGGTATGATT CTATGTGTTA	660
TTGTAAACTC ATTCTTTTGC TTCTGTGGAG TTAATGGGGG ACAAGTTTTA AATGCTTTTG	720
TAGACCCAGT TTGGTTACAA TTTACTACAG AAAACCAAGA AGCTGTGGCT GCAGGACAAA	780
CACTCCAACA CATTATTACA TTACCGTTTA AAGATTTATT TGTATTTATT GGTGGCGGTC	840
GAGCGACTAT TGGTCTTGGC ATTTGTCTCT TCCTATTTAG TAAGAGTCGT GCGAATAAAA	900
CATTAGGTAA GCTAGCTATT ATACCGTCTA TTTTAAATAT CAATACAGCT ATTCTATTTA	960
CGTTTCCAAC AGTTTTAAAT CCGATTATGC TGATTCCTT TATTGCTACT CCTACAATCA	1020
ATGCCTTGAT TACCTATGTA TCAATGGCTG TAGGATTAGT ACCCTATACA ACAGGTGTAA	1080
TCCTTCCGTG GACAATGCCA CCGATTATAG GAGGCTTCCT TGCAACAGGG GCTAGTTGGC	1140
GAGGAGCTCT ATTACAAGTT GTTTTGATTT TGGTTTCTGT AGCAATTTAT TATCCATTCT	1200
TCAAAATTGC AGATAAACGC AATCTTGAAA AAGAAAAAGC TACTGTTGGA GGGAAATAAG	1260
ATGTTTATCA GAGTATTTGA TCAACAGAAA AATACTTATT CTAGCTTTGC CTTAGAGGAA	1320
TTAAGTTACT ATATGAATCG GGTCTTTAAG ACTAACATAG AGCTTGTCGA GGAGAAGGAA	1380
GCGGATATTT TTGTAGGATT AGTCAATAAA GAGGACAGAA AAGACCATGT TCTTATCTCA	1440
TTAGACAAGG GTAAGGGGAG AATTGAGTCT AATACAATTG TAGGTTTACT TATTGGAATT	1500
TACCGAATGT TTCATGAATT TGGGGTTGTG TATACTAGAC CAGGGCGCAG ACATGACTTT	1560
GTTCAGAGT TACGATTGA AGATTTTTTA GATAAACAGC TATCTATAGA TGAACAGCC	1620

547

AGTTACTATC ATAGGGGAGT ATGTATAGAG GGAGCGGATT CATTTGAAAA TATACTAGAT	1680
TTCATTGATT GGCTACCTAA GATTGGGATG AACAGTTTTT TCATCCAGTT TGAAAAATCCT	1740
TACTCTTTTT TGAAACGTTG GTATGAACAT GAATTTAATC CATATCTAAA TAAAGAACAA	1800
TTTTCAAATG AATTAGTACA AGAATTGAGT GATAGGTTGG ATAAAGAATT GCAAAAAAGA	1860
GGTCTTATTC ATCATCGTGT TGGTCATGGA TGGACAGGTG AAGTTTTAGG TTACTCTTCA	1920
AAATTGCGCT GGAATCAGG TCTTAGTATT TCAGAGGAGA AGAAACCCTA TGTCGCTGAA	1980
ATAAACGGGA AACGAGAATT GTTTAATACG GCTCCGATTT TAACCAGCCT GGATTTTTCA	2040
AATCCAGATG TAGCTGATAA GATGGTAGAA ATTATCAAGG ATTATGCCAA GAAAAGACCT	2100
GATGTTAACT ACTTACATGT ATGGTTGTCG GATGCTCGTA ATAATATTTG TGAATGCGAA	2160
AACTGTAGAC AAGAATTGGT TTCGGATCAG TATATTCGTA TTCTCAATCA ATTGGATAGG	2220
GCTTTAACGA GTGAGGGATT AGATACAAAG ATTTGTTTTC TGCTTTATCA TGAGTTGTTA	2280
TGGGCACCTC AGAAAGAAAA ATTAGATAAT CCTGAACGCT TTACCATGAT GTTTCACCCG	2340
ATTACAAGAA CATTTGAAAT GAGTTATGCA GATGTAGATT TTGACAATTC CATACCTACG	2400
CCTAAACCTT ATATGCGTAA TAAAAATATA CTTCCGAATT CTCTTGAGGA AAATTTATCT	2460
TATCTTTTTG AGTGGCAAAA AGCATTAAAA GGAGATAGTT TCGTATATGA CTATCCTTTA	2520
GGGCGTGCTC ATTATGGCGA TTTAGGCTAT ATGAAAATTA GTCAAACTAT TTACAGAGAT	2580
GTATCTTATC TTTCCAACCT ACATTTGAAC GGGTACATTT CGTGTCAAGA ATTACGTGCC	2640
GGATTCCCTC ATAATTTTCC TAATTATGTC ATGGGGGAAA TGCTCTGGAA GAAGACAAGA	2700
AGTTATGAAG AATTGATTGA AGAATACTTT TCTGCTTTGT ATGGGGAAAA TTGGCAGTCT	2760
GTTGTTGAAT ATTTAGAAAA ATTATCCATT TATTCCCTCT GTGATTATTT TAATGCAATT	2820
GGCAGCCGTC AAAGTGATGT TTTAGCGAAT CATTATTATA TAGCTTACAA TCTAGCTGAT	2880
AATTTTTTAC CAATTATTGA GGAAAAATATT TCTAAGTTAT TAAATAGTCA AAAGGATGAA	2940
TGGAACACGC TCAGTTATCA TCGTGAATAT GTTGTTAAGA TGGCGAAGGC TTTATATCTT	3000
CAAGCAACTG GAAAAACAAG GCAAGCTCAA GATGAATGGA GAAATGTGTT GAATTATATC	3060
CGTGGGCACG AATTGCTATT TCAATCTAAT TTGGATGTTT ATCGTGTAAT TGAAGTAGCA	3120
AAAAATTACG CTGGTTTCCA CTTATAAATC ATAAGTATAG AAAATGAACT AAGGTATTCA	3180
GAGAAGATTG ATCCTAAATA TTATGAAATT TAAGGATTTT TAAGATATTT AGGGTCAACT	3240
TTCTATTTAT ATCGTAGCGA AGTCATTTTA ATAATGATGT GTAAAAGATG GATCAAGATT	3300
GAGGAGGAAG AAAGATGAAA TCAAAAGAAG AAATAAATAT GCTTGGTTTT ACAATTGTCG	3360

548

CTTACGCAGG AGATGCAAGG TCAGATTGA TGGATGCTTT GCGGTTTGGC AGAGATGGAT	3420
ATTTTGAACA GGCAAGAGAA TTGGTTGAGT CTGCAAACGA CTCAATAGTG TCTGCCCATC	3480
GAGAACAGAC TAATTTATTA GCGGAGGAGG CATATGGAGA TAATTTTGAA GTGAGCTTTA	3540
TTATGATTCA TGGTCAAGAT ACTTTGATGA CAACGATGCT ATTGTATGAT CAGGTAAAGT	3600
TTTTTATTGA TGAATATGAA CGAATTCGAA AGATTGAAGA ACATATTGGT TTGCAATGAG	3660
GATTAGTCAT GGAAATTTA CAGGTTAAAG CCTTACCGAA GGAGTTTTTA TTAGGAACTG	3720
CTACCGCTGC TTATCAAGTA GAGGGTGCAA CTAGGGTAGA TGGCAAAGGA ATAAATATGT	3780
GGGATGTTTA TTTGCAAGAA AATAGTCCGT TCTTACCAGA TCCAGCTAGT GATTTTTATT	3840
ATCGTTACGA AGAGGATATA GCTTTGGCGG CAGAACATGG TTTGCAGGCT TTGCGTTTAT	3900
CTATTTCTTG GGTTCGTATA TTTCCTGATA TAGATGGGGA TGCTAATGTA TTAGCTGTTC	3960
ATTATTACCA TAGAGTTTTT CAGTCTTGCT TAAACATAA TGTGATTCCG TTTGTTTCTT	4020
TACATCATTT TGATTCGCCT CAGAAAATGT TAGAAACAGG GGATTGGTTG AACAGAGAGA	4080
ATATTGATCG TTTCATACGA TATGCTCGCT TTTGTTTCCA AGAATTTACA GAAGTCAAGC	4140
ATTGGTTTAC AATCAATGAA CTGATGTCTC TTGCTGCAGG TCAATATATA GGAGGTCAGT	4200
TTCTCCAAA TCATCATTTT CAATTATCTG AAGCAATTCA AGCGAATCAT AATATGTTGT	4260
TGGCGCATGC TCTTGCAGTC CTCGAATTTT ATCAATTAGG GATTGAGGGA AAGGTAGGTT	4320
GTATTCATGC TTAAAGCCA GGCTATCCTA TTGATGGGCA AAAAGAAAAT ATTTTGGCAG	4380
CTAAACGGTA TGATGTTTAT AATAATAAAT TTCTATTAGA TGGAACTTTT TTGGGCTACT	4440
ACAGTGAGGA CACGCTTTT CACTTGAATC AAATATTGGA AGCTAATAAT TCTAGCTTTA	4500
TTATTGAAGA TGGTGATTTA GAAATTATGA AGAGAGCTGC ACCTCTTAAT ACGATGTTTG	4560
GGATGAATTA TTATCGTTCA GAATTTATTC GTGAATACAA AGGTGAAAAT AGACAAGAAT	4620
TTAATTC AAC AGGAATAAAA GGACAGTCTT CTTTTAAATT AAATGCTCTA GGTGAATTTG	4680
TAAAAAACC TGGTATTCCG ACAACAGATT GGGATTGGAA TATTTATCCT CAAGGGTTAT	4740
TTGATATGTT GCTTCGTATC AAAGAAGAAT ATCCTCAACA TCCGGTCATT TATTTAACTG	4800
AAAATGGTAC AGCCCTTAAA GAAGTTAAGC CAGAGGGCGA GAATGATATT ATTGATGACA	4860
GTAAGAGAAT CCGTTATATT GAGCAACATT TACACAAAGT TTTAGAGGCT CGAGATAGAG	4920
GAGTCAATAT TCAAGGCTAT TTTATATGGT CTTIGCAAGA TCAATTTTCT TGGGCGAATG	4980
GCTACAATAA GCGATATGGT CTTTCTTTTG TTGATTATGA AACACAGAAG AGATATATTA	5040
AGAAAAGTGC TCTTTGGGTA AAAGGGCTAA AACGGAATTA AGGTTAGCGA TTTGACTGAT	5100
GTTTAATATG TTTTAAATAT GAGGTTGAAT TTTTATAGG AGGAGTTTGA TGGATAAGCT	5160

549

AGTCGCTGCC ATTGAAAAGC AACAAAGGGAA ATTTGAAAAA ATTTCTACTA ATAACATATAT	5220
GATGGCTATT AAAGATGGAT TCATTGCTAC TATGCCTTTA ATTATGTTTT CAAGCTTTTT	5280
GATGATTATT ATTATGATTC CTAAAAATTT CGGAGTAGAG TTACCGAGTC CAGCTATTGT	5340
CTGGATGAGA AAAGTGATA TGTTAACCAT GGGAGTTTTG GGTATTATTG TTTCAGGGAC	5400
TGTTGGAAAG TCATTAGTTG GAAATGTTAA CAGAAAAATG CCTCACGGAA AGGTAATAAA	5460
TGATATTTCT GCAATGTTGG CAGCCATATG TAGTTATCTG GTATTAACTG TAACGCTTGT	5520
AGTTGATGAG AAGACGGGAT CTACAAGTTT GTCGACAAAC TATTTAGGAT CTCAAGGATT	5580
GATAACTTCG TTTGTCAGTG CCTTTATTAC TGTAATGTT TACCGATTCT GTATTAAGCG	5640
AGACATTACT ATTCATTTAC CTAAGGAAGT TCCTGGGGCT ATATCACAAG CTTTLAGAGA	5700
TATTTTCCCT TTTTCTTTTG TTTTACTTAT TAGTGGTTTG TTAGATATTG TATCTCGGTT	5760
TAGTTTAGAT GTTCCTTTTG CCCAAGTATT TCAACAAC TAAGTCCCTA TTTTAAAGG	5820
GGCAGAATCA TATCCTGCTA TGATGTTGAT TTGCTTTATG TGTGCTTTGC TTTGGTTTGT	5880
TGGAATTCAT GGACATCTA TTGCTTACC TGCTGTTACA GCTTTGCAAC TGAGCAATAT	5940
GGAAGAGAAT GCTCAACTTC TTGCAAAATGG GCAGTCCCT TATCATCTCT TAACACCTAA	6000
TTTCGGGAAT TATATCGCTG CTATTGGAGG AACGGGGGCT ACCTTTGTTG TACCATTTAT	6060
TTTGATTTTC TTTATGCGGT CTAAACAATT AAAATCGGTA GGTAAGCTA CAATTACTCC	6120
TGTTTTATTT GCGGTAAATG AACCTCTTCT ATTTGGTATG CCTGTTATTT TGAATCCCTA	6180
TCTTTTGTG CTTTTTTGA TGAATCCCTA AGTGAATGTA TTTCTAGGAA AGGTCTTTAT	6240
TGATTTCTTT GGAATGAATG GATTTTATAT CCAGTTACCT TGGACCTTTC CTGGTCCCTT	6300
GGGATTGTTA ATTGGAACGA ATTTTCAACT TATCTCCTTT GTATTTTAT CTTTGATTTT	6360
AGTTGTCGAC ATATTGATTT ATTTGCCATT CTGTAGAGCG TAIGATAGAC AGTTACTGGT	6420
GAAAGAAGAT ATTGCAAGCT CAAATGATAT TATTTTAGAG GAGGATACAA GTGAAATAAT	6480
TCCTGGTGAG ATAGATGAAA TAAAAAGTAA GGAGTTGAAA GTAGTGGTTC TTTGTGCAGG	6540
GTCTGGAACA AGTGCGCAAT TAGCCAATGC AATTAAACGAG GGGGCTAACT TAACAGAGGT	6600
TAGAGTGATT GCGAATTCAG GAGCGTACGG AGCTCATTAT GATATTATGG GTGTTTATGA	6660
TTTAATTATT CTGGCCCCAC AAGTTCGGAG TTATTATAGA GAGATGAAGG TGGATGCAGA	6720
AAGATTAGGT ATTCAGATAG TTGCTACCAG AGGAATGGAA TATATTCATT TAACAAAGAG	6780
TCCAAGTAAA GCCTTACAAT TTGTATTGGA GCATTACCAA GCTGTGTAGT AAGTTTTTCC	6840
ATCTTTTATT TGAGTAAAGA TTTTGTGTAC AGATAGGCTT GGATTAAAA ACCTTCCCCC	6900

550

TTTTTTAATA TAAGAATCCC TCTTTCACAA TTGTAAAAAG AGGGATTTTG TATTTTATCT	6960
CTTAGACCAA GTTCTCTTCA TAAAGAGAAG GAGGATTGGG TAAATCTCCA AGCGCCCTGC	7020
AATCATTGCA AAGGATAGGA GAATTTTGA GATGGGACTA AAGATTGAGA AACTAGAAGT	7080
GGTTCCTAGA ATAGGCCCGA TATTATTGAA ACAGCTAAAG ACAGCGCTGG TCACGACCAG	7140
AAAATCATTG CTATCTAGGC TGACAATAAA GATAAGCGCT AGCAAAATCA TAGCATAGAT	7200
GACAAAGTAC TTGAGAATCT TATGCTGGGT ATCTTTGTCA ATCACCCTTT TATTAACATG	7260
GAGGTCAAA ACACGGTGGG GCGATAGGAT TGACAAAATT TGGTTTTTGG CAATTTTGA	7320
AAGGATGAGG CCTCGAATAA TCTTGAGTCC ACCTGCAGTT GATCCAGCAG AGCCACCGAT	7380
TGCCATGAGG AAAAGGAGGA TAAACTGGGA GAAGAGGGGC CAGTTGGTAA TATCTCCATA	7440
TCCAAAACCA GTTGTGTGTA TGATGTGGA AACCTGGAAG AAGGTCATTT CAAAGCTCTT	7500
TGAAAACCTT GGGTAGAGGT AGAGGGTGTT GAGGCTAATC AAGCCTGTAG AAACCAGTAC	7560
AATGACCAAG TAAGCCCTAA GCTCTTCATC TCCAAAGAAG GCCTTGATGC GACGGAGCAT	7620
GAGGTAGTAG TAGAGGTGA AATTTACTCC AAAAACCAGA ACTCCGATAC TGACCAGATA	7680
GGTAATCAGT GAGCTGCCAT AGTGGGCAAT TCCGTCGTTA TAGACGGTAA AGCCTCCAGT	7740
TCCCGCTGTC CCCATAGCAA TAACAAAACCT ATCGTAGAGA GGCATACCGG CTAGATAATA	7800
GATGATGACA AAGAGGGAGA AGAGAGCTAG ATAAAGGAGA TAGAGAATCT GGGCAGTGTT	7860
TTTGTAGTTG GATACAACCT TGCCAAAAAC AGGACCTGGA ACCTCAGCCT TCATCACCTC	7920
TAGGTGGCTA TTTTGGCAT TGTCATAAT AGCAAGTGCA AAAACAAGCA CTCCCATCCC	7980
TCCAATCAAG TGGGTAAAAC TTCGCCAGAA GAGGAGGGAA CGGCTGAGAA CCGAAACGTC	8040
GTTCAAAATA CTTGCTCCAG TAGTTGTAAA TCCAGAACTA ATTTCAAAAA AGGCATCAAT	8100
AAGGCTGGGG ATTTGCCCAG AAAAGACAAA GGGGAGACCA CCAAAGAAAG ACCAAAGGAT	8160
CCAACAGAGG GCAACGATCA AGACTCCCTC CTTGGCATAA ATCCGTTGAT TTTTGGCTT	8220
CTGTAAACTC CCTGAACCGC CTAACAATAC GAGAATCCCT ATGGTCGAAA AGAGGGCTGT	8280
AAAGACTTGG CTCGATTCAC GGTAATAGAC AGCAATCGCA ACAGGAACCA AAAGAAGAAC	8340
AGCTTCAATC AAAAGTAATT TTGAAAGGAG GTAACGAATC ATACTTTTAT TCATTTCTTA	8400
CCTCGCGATC AAGTCATAAA TCTTGGTGAT GTTGGCAAC AAGGTTGTTA CTAGGAGCTT	8460
GTCTCCAACT TCCAACATAT CCTCCCAGT TGGGAAAATA GTCTTGCCCT TTCGAATAAT	8520
GGCTGCAATA AGAACCCCTT TTTTCAATTT CAGTTGAGAA AGAGGTTTGG CAGTCATTTT	8580
ATTGGCTTCC TTGATATGGA ATTGCAGGGT TTCGATTTGG CCATTGGCTA GATGGTGCAT	8640
AGCTTGAAGG TCTGAATACT GGGCATTAAC TCGACCACGA ATAAAGTGCA TAATCGTATC	8700

551

TACAGCGATG CTTTTAGGTG TGATGATACT TGAAAAATCA GGCGCATTGA TAATCTCGAG	8760
GAGACTGGTA CGATTGACCT TAGTAATATT TTCTGTACA CCTACCCTGT CAAGGAACAT	8820
AGATGTAATC AGATTTTCCT CATCGACTCC TGTTAGAGTC GCAACGGCAT CATAGTGTG	8880
AGCACTTTCT TCCAGCAGGA TATCTTTTGC GGTCCATCT CCTTGAACGA TGTAGAGATT	8940
TGGGAATTC TCGCTAAAGA AGCTGGCGAT TTCAGGATTG ATTTCAATGA CTTTGTATC	9000
GATACGACTA TCTTTGAGAA TACCAAGTAG ATAATAGGCA ATTCTACCTG CCCCACGAT	9060
GAGAAGGCTC TTCACGGCGC GTGATTTAAA ATAATTATGG AAGAGTATCA TATCGACACG	9120
GTTACCAGTG ACAAAGATTC TATCTTTATC CTGTACAGTC ATGTCAACCG TTGGAATGAT	9180
AATTTGATGA TCCCTCTCTA TCGCACAGAC AATGACATTA CCAAATTTT TACGAAAATC	9240
AGAAATGGGC ATTTGGCAA GACCGCTGGT GCACTTGACG ACAAATTCCA TGAGGCTAAC	9300
GCGTCCACCA GCAAAGCGTT CGACAGACAG GCGTTGGGG AAGTCAATGA TATTCGCGAT	9360
AGCGCGGGCA GCCAAGAGCT CAGGATTAAC GATAAGAGAA AAACCGAGAA TATTCCTTTC	9420
CTTGAAATAA GAGTTAGAAT ATTCAGGGTT CCGCACCCGA ACGATAGTTT CTTAGCTCC	9480
CATTTCTTGT GCTAGAACTG CTGCAATCAT GTTGACTTCA TCGTGCTCAG TCAGGGCGAT	9540
AAAGATATCA CAATCTTGA CGCTGGCTTG CTCAAGAATG GCAAATCGG CCCCCTTACC	9600
AAGGATACCA ATGATATCAA AGCGACTGAC AATATGATTG AGAACAGCTT CGTCTTGCTC	9660
AATCAGCAAA ACATCATGCT TTCTGCAAC CAAGGAGCGA CAGAGGGCAA AACCAACTTT	9720
TCCCCCTCCG ACAAGGATAA TTTTCATAAT AAAACCTACT TTTTCATGAT GTAACATCA	9780
TACCCTTTTT CAAGAAAAA TGACCTACT AGCTAATAAC AAGAGTTTTT AGTGAAAATT	9840
CGCTATAAGG TAAAACTATA CCTAACCBA TTGAAATAGC TATTAGCGAC TTCTCTGAA	9900
ATATGCTATG ATAAAGGATA TACAAGGAGA TAAATGAAT AATAATTTAC TGGTATTACA	9960
ATCAGACTTT GGTCTGGTTG ATGGTGCGGT ATCGGCTATG ATTGGAGTGG CTTTGAAGA	10020
GTCTCCAACC TTAAAAATAC ATCACTTGAC GCACGATATC ACGCCTTATA ATATTTTGA	10080
GGGAGCTAT CGTCTCTTTC AGACGGTGGA TTAGTGCCCT GAGGGAACGA CGTTTGTATC	10140
GGTTGTCGAT CCAGGTGTCG GTTCGAAACG TAAGAGTGTA GTTGCCAAGA CTGCAAAAAA	10200
TCAATACATT GTCAGCCAG ATAATGGGAC GCTTTCCTTT ATCAAGAAAC ACGTTGGCAT	10260
TGTAGCCATT CGTGAGATTT CTGAGGTGGC CAATAGGCGT CAAAACACAG AGCATCTTA	10320
TACCTTCCAC GGTCTGTATG TCTATGCCA TACTGGTGCT AAAGTGGCCA GTGGTCACAT	10380
TACTTTTGAG GAAGTAGGGC CAGAGCTCAG TGTGGAACAG ATTTGTAGAGC TTCCAGTCGT	10440

552

AGCGACCATC ATAGAAGATC ATCTGGTGAA GGGAGCCATT GATATTCTGG ATGTGCGTTT	10500
CGGTTTCGCTT TGGACCTCTA TCACACGGGA AGAATTTTAC AAGCTGGAAC CAGAATTGCG	10560
TGATCGTTTT GAAGTGACCA TCTATCATGC TGATATGCTG GTCTATCAAA ATCAGGTTGT	10620
CTATGGCAAA TCATTGTCAG ATGTGAGAAT TGGGCAACCs ATcTTTACrc TCAGCaTCTt	10680
CGATTAGCTG GGCAATTCGT TCTAGTTGGA TTTCGTCAAT CAAGGT	10726

(2) INFORMATION FOR SEQ ID NO: 67:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 7163 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: double
 - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 67:

TTATCTTTAA CGATATCAAT CAAGATCTGG TCAATAAAGG GATTGGGGCT TATCGTGAAG	60
TTGGCATCCA AGCCCATGGA TATGCTCTGTG ACGTGACAGA CGAGGACGGT ATCCAAGCCA	120
TGGTCAAGCA AATCGAACAA GAGGTTGGTG TCATTGACAT CCTCGTTAAT AACGCTGGTA	180
TTATCCGCCG AGTTCCAATG TGCGAAATGA GCGCCGCTGA TTTCCGTAAG GTCATCGATA	240
TTGACTTAAA CGCACCATTt ATCGTTTCAA AGGCAGTTAT TCCTTCTATG ATAAAGAAAG	300
GGCATGGAAA GATTATCAAT ATTTGTTCGA TGATGAGCGA ACTGGGACGT GAAACAGTTA	360
GCGCTTATGC TGCTGCTAAA GGGGGCTTGA AAATGTTGAC CCGCAACATT GCGTCTGAAT	420
ACGGTGGAGC CAATATCCAA TGTAACGGAA TTGGACCGGG TTATATTGCC ACTCCTCAAA	480
CAGCACCTCT TCGTGAATTG CAAGAAGATG GTTCTCGCCA CCCATTTGAC CAGTTCATCA	540
TTGCAAAAAC ACCTGCTGCA CGTTGGGGAA ATACTGAAGA TTTGATGGGC CCTGCTGTCT	600
TTCTCGCTAG TGATGCCAGC AATTTTGTCA ATGGCCACAT CCTATATGTA GATGGCGGTA	660
TCTTAGCCTA CATCGGAAAA CAACCTGAGT AAAAAAGAA AGAAGATCTT ATGAAAATCG	720
CATTAATCAA TGAAAATAGT CAAGCTAGCA AGAATCACAT TATTTACGAT AGTCTAAAAG	780
AAGCGACAGA TAAAAAAGGC TACCAATTAT TTAATATGG TATGCCGTGA GAAGAAGGAG	840
AAAGTCAATT AACTTATGTG CAGAACGGAC TAATGGCTGC CATCCTTTTA AATACAAAGG	900
CAGTTGACTT TGTGTGTACC GGCTGTGGTA CGGGTGTAGG GGCTATGCTT GCTTTAAACA	960
GCTTCCCTGG TGTTGTCTGT GGTCTAGCAG TGGACCCAAC TGACGCTTAC CTTTATTCTC	1020
AAATCAATGG TGGTAACGCC TTGTCTATCC CTTATGCCAA AGGATTTGGC TGGGGGCGAG	1080
AACTGACCCT CAAATTGATG TTTGAACGCT TATTGCTGA AGAAATGGGC GGTGGCTACC	1140

553

CAAGAGAACG TGTAATCCCT GAACAACGCA ACGCTCGTAT CTTAAACGAG GTGAAACAAA	1200
TCACCCACAA TGATTTGATG ACCATCCTTA AAATAATCGA CCAAGACTTC CTCAAAGACA	1260
CCATCTCTGG CAAATACTTC CAAGAATACT TCTTTGAAAA CTGCCAAGAT GATGAAGTTG	1320
CTGCTTATTT GAAAGAAGTA TTAGCCAAGT AAAGCTATTC TAAACCAGAA AGGAACTAAT	1380
GGATGACGAA AATATTACTG TTTGGCGAAC CATTAAATCG AATTTCACCA TTAGATGCCA	1440
CCAGTATCGG CGATCATGTT GCCAGTTCGA CTTATTTTGG CGGATCAGAA ATTAACATCG	1500
CTTGTAATTT GCAAGCCCTG GGTATCTCAA CGAAAGTTTT TACCGCACTC CCTGCCAACG	1560
AGATTGGAGA TCGTTTTCTC ACATTCTTGA AACAGCACCA AATCGATACC AGTTCAATCT	1620
GTGGGCTTGG CGATCGAATC GGCCTCTACT ATTTGGAGAA CGGCTTTGGT TGTCGTCAAA	1680
GTGAAGTTTT CTACGATCGT AAGCATACGA GTATCAGCCA GATTCGGCCA AACATGCTAG	1740
ATATGGATTC TCTCTTTCAG GGGATTAGCC ATTTTCATTT TAGTGAATC ACCGTAGCTA	1800
TCGGTCAAGA GGTCCGTGCG ATCCTTCTCC TACTCTTGA AGAAGCCAAG CGCCGAGGAA	1860
TTGTCTGTTT AATGGATCTC AATCTGAGAA CAAAGATGAT TTCAGTCTTA GAAGCCAAGT	1920
ATGAATTTTC TAAGTTTGCA CGTTTTACTG ACTATTGCTT CGGTATTGAT CCTCTCATGA	1980
TTGATGACCA AAATCTAGAG ATGTTTCCAA GAGACAGTGC TAGCCTAGAA GAGGTGGAAA	2040
ATCGCATGCG ACTTTTAAAA GAAGCCTATG GTTTCAGGC CATTTTCCAT ACCCTCCGCT	2100
CTAGTGATGA GCAAGACAAA AATGTCTATC AAGCCTATGC TCTAGAAGAA CTATTTGAAG	2160
AGTCTGTCCA ACTAAAACT GCAGTCTATC AACGAATTGG TAGCGGGGAT GCCTTTATAT	2220
CTGGTGCCCT TTACCAACTA CTCCATCATT CCTCCCTAAA AACTACCATT GACTTTGCAG	2280
TTGCGAGCGC AACTCTCAA TGCACTCTTC CAGGAGACCA TCTCTCCACT TCCTCAACTA	2340
GTATTGAAAA TTTACTGGCA AATGCACAAG ATATCATTCG TTAGGAGAAT TACATGACCA	2400
AATCAGATAC GATTATTGAA CTAAAAAAC AAAAAATTGT CGCTGTTATT CGAGGAAATA	2460
CAAAGGAAGA AGGACTACAA GCCTCGATTG CTTGTATCAA GGGCGGTATC AAAGCTATTG	2520
AAATCGCCTA TACCAATCAG TATGCAGGAC AAATCATCAA GGAAC TTGTA GACTTGTATC	2580
AGGACGATCA GAGTGTGTT ATCGGTGCAG GTACTGTGCT TGATGCCGTA ACTGCTAGAG	2640
ATGCCATTCT AGCTGGAGCA AATTACGTTG TTTCTCCATC TTTCCATGCT GAAACTGCGA	2700
AAATGTGCAA TCTCTACAGC ACACCGTACA TTCCAGGCTG TATTACCCTC ACAGAGATCA	2760
CGACTGCACT TGAAGCCGGT AGTGAAATCA TCAAACCTCT CCCAGGTAGT ACTCTCAGTC	2820
CAGCATATAT CTCTGCAGTC AAGGCACCGA TCCCACAAGT TTCCGTAATG GTAACCGGAG	2880

554

GAGTCGGCCT AAACAACATC CCTCAATGGT TCGCTGCTGG TGCAGATGCC GTTGAATTG	2940
GTGGCGAACT CAATAAACTC GCTTCCCAAG GCAACTTTGA CCGCATCAGC GAGATTGCCC	3000
AACAGTATAT TACACTCAGA TAAAATCATA ACTACCCGTC TAACGGGTGG TTTATCTCAG	3060
AGCTATAAGC CCAAATCATC AGCCAGCGCC TAAAGACGCT GGCTTTCACG TTGTTCAAGC	3120
CTTATTGCTC TTGACTCGTC ACTTGCCTCT TTAAGAGACT TTGGTATTAC TTACCACTAT	3180
CCCTAAAGG ATCCTCATAT TCTTTTACAC TCAATTTATC TAGTGCTATA GTAGATTGAA	3240
ACTGGAATAG TACACCTCTG CTTCTAAAAC ATTGTTAAAA ATCGATTTGA CTGTCCTGAT	3300
CGATTTTGTC CTGTTCTTAT TTCATTTTAC TATATATCAT ACTTTACTCG TTCTCAAATT	3360
TTCATACTCA TGAAGAAATC ATCCACTCGA TAATTTCTTT AATCTTGAAT ATATTTCTTA	3420
ATTGTGGCTT CATTAAGCCC TACTGGACTT ACATAATAAC CTTCCTCCCA GAAATGCCGA	3480
TTCCCAAAC TGTACTTGAG ATTGGCGTGT TTGTCAAACA TCATGAGTGC ACTTTTGCCCT	3540
TTTAAATACC CCATAAACT TGAACACTT AGCCTCGACG GAATACTGAC TAACATGTGT	3600
ACATGGTCTG GCATTAAGTG ACCCTCGATC ATTTCAACAC CTTTATAACT ACACAAGCGA	3660
TGAAATATTT CGTCTAACT ACTTCTATAT TGATTATAGA TGACTTTTCG TCTATACTTA	3720
GGGGTGAACA CAATATGATA GAACACCTCC ACTTTGTGTA TGATAAACTA TGAGTCTTTT	3780
GTGCCATATT TTTTCTCCTT TCGCTTTACA ATTGGATTGA ACACCTTTAT TGTATCGCGT	3840
TTGGAGTTT TTTGGTATAA CCTTCGACGC GCACCCGTAT AGCGGGTGGT TGTTTTGCTT	3900
CGCACCTCAC GGAGCGAGAC GGACTAATAT AGTGGAGTGA AATAGGATAC GAACAAATTC	3960
ATTAGGAAAA TCAAAATGAAT TTATAGAAAT CTTTTCAGCAG TTATAACGTT CTATTCTAGT	4020
TTCAAAACGC TATAGTCACA TAATAATGAA GTAAAAAAGG ATAAGTATCA ACTTATCCTT	4080
TTTTAAAGA AAAATCCGAA GATATTTGGC CTTCTTCGGA TTTTCTCTAT TTTCCACAGT	4140
TTCATGTAAT TCATCTAGAT GATGAACAAA TTAGTTGTTC TTTCCTCTAC GGAATAGATA	4200
AAATGCCCCA AGTAGCAAGA ACCCTAGACT TGCCAAGATT GACTGACCTT CTCCTGTCTG	4260
AGGGAGATTC TTTTGATCCG AATGGTTCTT TTCCTCTTCA GATTTTTCCT TTTCTTTTGA	4320
ATTCTGTACT TGTGGCTGAG CTGCTTGCTC TAGCTTTTTA AAGACTTCCT GATCTGGAGC	4380
TGATTCCTGG GTTTCAGGAT TATAGTAGGC AATCTTATAT TCATCCCTT CTTTTCGAAT	4440
GGTATAGACT CCACGTTTCA AACTTGGA TTGGTTGGAA ATAGTAGAGA CAGAATCATC	4500
ATATTTTACA ATGCCCCAAA CTCCTTGTTT AGCATCATAA ACAGACTGAA GGGTTTCGTT	4560
ATTTTCGATG AGGCTACTTT CTAACCTTTT TATCATTTGA TTGAAGGTGG CACGATCCAC	4620
GTTAGGAATG AGCATATAGC CATAAGAATC TCTATTTTGC TTATGAGCCT GACTAATCGT	4680

555

AAGAAATTCA TTTTCAACTT CCTTGTCTGA CTGTCCTTCA TTGATATCCT TCCAGGCTCC	4740
CTTTTGCAAA GCCTTACTCA TACTGATTGA ACTCTTCTTA AAGAAAAAGT AACCAATATT	4800
CTTTTTCGAA TCGAACGATT CTAAAAAGAC ACTTTGGGTT TCAGGATAAT CCTTTTCTTG	4860
TTCTGTAAGG GAGGCTTCTT TATCATTGAC ATAGACTTTA TATGGA'TTAC CTGATTCCAG	4920
TTTTCTCTGG TCAATTGTAG TTGCAGCAGT ATCTGTTGAA GTGTTTTGGA TATTGCTTCC	4980
TAAAAAGGCG ATCTTATCCT TTAGCATAAA CCAGCTCTTA TGAGCAGTCA ATGTTTGATT	5040
CCAGTTGGTG AAATCCATGG TTGCTGTCGC ATTGGCATCA TCTAGTTTGC TCGTTCCAAC	5100
GAAAGCAGAC GGTAAAACTT TACCTGTATC GCTATCCGCT CTCTTAGCAT CCGTCTCTGT	5160
TGTACCAGGC ATCTTATATG GATTAACTGT TGGCCAGTAG CCATCGCTAT AGTGACTCAA	5220
ATCGCCATTG TAAAGATAGA ACATCCCATC ACTCGTATAC CAACCACGTT TATTTTCCTT	5280
GTTCATGTGT TCGTAATTCA AGGTACGACT GGAAAAGAGT GACAAGCCAA ATCCAAACCC	5340
TTTCTCTGCA TTGTACATGG CTGTTTATC CATCTTGTTA AAGGCAGATA GGTAACCTGG	5400
TCTTGGACA CTGCGACTC CTGCATCACT TAACAAGGAT TGCATCAAAC TGATATCCTT	5460
ATAAGTCTTC AAATTC'TTAA AGACATCATA ATAACTATCC GATTGAACAA TGGTCTTCAC	5520
AAGACTCTGC AAACATTGTT TGGTTTCTCC TTCAGACATA TCCGCTATTG GGTGAATCCC	5580
TCTTAGTACT TCTACTGCGG CCACGTGCCC CTCGCTATTT GCACGACTGA TCGAGCGTCC	5640
ACGACTCATA TCCATCAACT CTCCATTAC CAGCAAAGGA GCAAACGATT TATCAATCCA	5700
GTGGTACATG GTTTGCATTT TATCTTTATC GATTGGATTG TTGGTCTTTT GAATGACTGG	5760
CAACAGTTGA GACAGGCCAT CAATCAAAAC ATTCCCATAA GCACCCGTAT AGGCAACATT	5820
GGTGTGGTCG ATATAGGATC CATCTTGATA AAAACCTTCA CCTTGGTCTA CCAACTTGAA	5880
CACTTGCTCA ATCGAGCGAA TGGTAGAAGA AATTCTTGA TCATCCTTAC GCAGTAAACC	5940
AGCTATTACT TTTACCCTTC CCATATCAAC TAAGTTTCCA CCTAGAGCCT TGAATGGGTT	6000
ATCAGTCGTC TTTCGGAAAT GTTCGGGATC TGGTACAAAT TTTTCAATCA CATCTGTATA	6060
TTTTTTAATT TCCTCATCAG AGAAGTATTC TTTCATCAGA GACAAGGTAT TGTGATGGC	6120
ACGAGGTGTA COGATTTCAT AATCCCACCA GTTCCCAACA ATGCTCTTTT CACTATTGTA	6180
GACATGTTTA TGCATCCATT CCATGGAATC CCTGACTGTT CGAACGACAG TITCATCTTG	6240
ATAATAACGA GAAGAAGGAT TGGTCACTTG CTGCGCATC TCCTCCAATT TCCGATAAGT	6300
GGCAGTCAGA TTTGCAGACG TTTTATAATT TGAAAATTTT TCCCACAAAT AGGTGCGGTC	6360
CGCCTGACTT GAAATACTGG ATAGGCTATC AGCTACCTTT CCTTCCAATT CCTGGTTTAA	6420

556

TTTGGCCATC TGTTCAATTT TAGAATCATA GTATTGATTC CCAGCGATGA TGCCATTCCA	6480
GTCAATCCAAA CGGTCTGTGT ATGCATCCTT AACAGAGGCC AGAATCTTCA AAGGAATCTT	6540
TTTCACTTCC TTGCCATCTT TACTGACAAT GACATTGGTT GTCCCTTCCT TAAGAGGTTT	6600
TAAAATTCCA TTTTGTACTG AAGCAACGTC AGGATTTTCT ACCTTATAAG TATAGTCCGC	6660
AAGAGAAAAA ACATGTTTTT TTCCAATTGG TAAATCAATC TTTTCCTCAA GCTGTTTATC	6720
TGTTTGAGAA TCCTCAGAAA GCTGGTCTGC TACCTCTACC AGCTCAATAT CCTTAAAGGA	6780
AACAGTCCCA GTTCTGTTT CATAGAATAA CTCCAGCTTG ATTTTATCAA CATCTAAAGT	6840
CGGGCTATAG TCTGCTTCAA TGGTCTGCCA GTCCTTTGTT CCTGACGTCG TTGCAGAATT	6900
CCACAATCGC TTGTCCTTAC CACTTTCCTC AATGATACGA ACTTTGGCAA TCCCGATTTT	6960
ATTATCTGTT TTAATCTTGA AACGCAGTTT ATACTTTTTC TTAGCTTCAA TAGGAACCAT	7020
ACGGTGAAGC GCTGCCCTTA ATTTCTCATG GCTTGAGATA GTGATAGCCC CATCCTTAGC	7080
CTCAATGACT CGAGTTGAGG CATCTGCACT ATTCTTCTGG TCTACCCAAG CTGACCACCC	7140
CCTGAGCTTT GCTTCCTGTC CGG	7163

(2) INFORMATION FOR SEQ ID NO: 68:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 9244 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: double
 - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 68:

CGTTATAACA TACATGTAAG CGGTACCCAA AATGGTGCCA AGTCAAAATT TTAAAGGAGG	60
AAAATACATG TCTTCACATC CAATTCAGGT CTTCTCAGAA ATTGGGAAAC TGAAAAAAGT	120
TATGTTGCAC CGTCCAGGCA AGGAGTTAGA AAAGTTGTTG CCGGACTATC TTGAAAGGCT	180
TCTTTTGGAT GATATTCCTT TCTTGAAGA TGCTCAAAA GAACATGATG CATTGCCCCA	240
AGCTCTTCGC GATGAAGGAA TTGAGGTTCT CTACCTAGAA CAACTCGCTG CTGAATCAT	300
GACCTCTCCA GAAATCCGCG ATCAATTTAT CGAGGAATAC TTAGACGAAG CCAACATCCG	360
TGATCGICAA ACCAAGGTTG CTATTCGTGA ATTGCTTCAC GGCATCAAGG ACAACCAAGA	420
ATTGGTTGAA AAAACAATGG CTGGGATTCA AAAAGTTGAA TTGCCAGAAA TTCCTGACGA	480
AGCTAAAGAT CTAAGTACT TAGTTGAATC AGAGTATCCA TTTGCAATG ACCCGATGCC	540
AAACCTCTAT TTCCTCGCG ACCCATTTGC AACAATTGGA AACGCCGTAT CGCTTAACCA	600
CATGTTTGCA GACTCTGTA ACCGTGAAAC ACTCTACGGT AAGTATATCT TCAAATACCA	660

557

CCCAATCTAT GGC GGAAAAG TGGATTG TGT CTACAACCGT GAAGAAGATA CGCGTATCGA	720
AGGTGGAGAC GAGTTAGTTC TTTCTAAAGA CGTCCTTGCA GTAGGTATCT CTCAACGTAC	780
AGACGCAGCT TCTATCGAAA AACTTTTGGT CAACATCTTC AAGAAAAATG TTGGCTTCAA	840
GAAAGTTTGT GCCTTTGAAT TTGCTAACAA CCGTAAATTC ATGCACCTGG ATACTGTCTT	900
CACTATGGTA GACTATGACA AGTTCACAT TCACCCAGAA ATCGAAGGCG ACCTTCACGT	960
TTACTCAGTT ACTTACGAAA ACGAAAACT TAAATCGTT GAAGAGAAAG GTGACTTAGC	1020
TGAACTTCTT GCTCAAAACC TTGGTGTAGA AAAAGTTCAT TTGATTCGTT GCGGTGGTGG	1080
CAATATCGTA GCAGCTGCGC GTGAACAATG GAACGACGGT TCTAACACTT TGACCATCGC	1140
ACCTGGTGTG GTAGTTGTTT ATGACCGCAA TACCGTGACC AATAAGATTT TGGAGAATA	1200
CGGGCTTCGC TTGATTAAGA TTCGCGAAG TGAATTGGTT CGGGGCCGTG GTGGACCTCG	1260
TTGTATGTCT ATGCCATTTG AACGTGAAGA AGTGTAAATCG CTGTTCGATA TTCGTCAATA	1320
GAAAATGTAA AAAATAGAAA GAGGAAATAA TAAATGACA AATTCAGTAT TCCAAGGACG	1380
CAGCTTCTTA GCAGAAAAAG ACTTTACCCG TGCAGAGTTA GAATACCTTA TTGGTCTTTC	1440
AGCTCACCTG AAAGATTTGA AAAACGCAA TATTCACAC CACTACCTTG CTGGCAAGAA	1500
TATCGCTCTC CTATTTGAAA AAACATCTAC TCGTACTCGT GCAGCCTTTA CAACTGCGGC	1560
TATCGACCTT GGTGCTCACC CAGAATACCT CGGAGCAAAT GATATTCAGT TGGGTAAAAA	1620
AGAATCTACT GAAGATACTG CTAAAGTAT TGGACGTATG TTTGACGGGA TTGAATCCG	1680
CGGATTCAGC CAACGTATGG TTGAAGAATT GGCAGAATTC TCAGGCGTTC CAGTATGGAA	1740
CGGTCTAACT GACGAATGGC ACCCAACTCA AATGCTCGCT GACTACTTGA CTGTTCAAGA	1800
AAACTTCGGT GCCTTGGAAG GCTTGACATT GGTATACTGT GGTGATGGAC GTAACAACGT	1860
TGCCAACAGC TTGCTCGTAA CAGGTGCTAT CCTTGGTGTC AATGTTTACA TCTTCTCACC	1920
AAAAGAACTC TTCCAGAAA AAGAAATCGT TGAATTGGCA GAAGGATTTG CTAAAGAAAG	1980
TGGCGCACAT GTTCTCATCA CTGAAGATGC TGATGAAGCA GTTAAAGATG CAGACGTTCT	2040
TTACACAGAC GTTTGGGTAT CAATGGGTGA AGAAGACAAA TTCGCAGAAC GTGTAGCTCT	2100
TCTTAAACCT TACCAAGTCA ATATGGACTT AGTTAAAAAA GCAGGCAATG AAAACTTGAT	2160
CTTCCTACAC TGCTTGCCAG CATTCCACGA TACTCACACT GTTTATGGTA AAGACGTTGC	2220
TGAAAAATTT GGTGTAGAAG AAATGGAAGT AACAGACGAA GTCTTCCGCA GCAAGTACGC	2280
TCGCCACTTC GATCAAGCAG AAAACCGTAT GCACACTATC AAAGCTGTTA TGGCTGCTAC	2340
ACTTGGTAAC CTTTATATTC CTAAAGTATA ATTTTAGATA ATAAACCGTC TACCAACAGC	2400

558

TATGAGGGCT GCGACTAATA GCTTTAGTCC GGTCCCTCTTT TATGTAATGG TAATCTATTA	2460
TTTCTTATAA AATATGTGAA AAATCATTAA ATTGAAATCT AAACGCATTC TATTGAGTGT	2520
GATAAAGGAG AATTTATGGC AAATCGTAAA ATTGTAGTAG CTTTGGGAGG AAATGCGATT	2580
CTTCTTCTG ACCCATCAGC AAAGGCTCAA CAAGAAGCTT TAGTTGAAAC AGCTAAGCAT	2640
CTTGTAATAA TGATTAAAAA TGGAGATGAT CTGATTATCA CTCACGGTAA TGGACCTCAA	2700
GTTGGGAATC TCTTGCTCCA ACATTTGGCA TCAGACTCTG AAAAGAACCC TGCCTTCCCA	2760
CTCGACTCAC TTGTGCTAT GACAGAAGGT AGCATCGGTT TCTGGTTGAA AAATGCTTTG	2820
CAAAATGCTC TCTTGATGA AGGCATCGAA AAAAATGTTG CCTCTGTTGT AACGCAAGTT	2880
GTCGTAGATA AAAATGATCC AGCTTTTGTT AACTTGAGTA AACCAATCGG TCCTTTCTAT	2940
TCAGAAGAAG AAGCAAAAGC AGAAGCCGAA AAAAGCGGAG CGACTTTCOA GGAAGATGCT	3000
GGCCGTGGCT GGCCTAAGGT CGTTGCCTCA CCAAAACCTG TTGACATCAA AGAAATTGAA	3060
ACCATCCGTA CTCTTTTAAA TAATGGTCAA GTCGTCGTAG CTGCAGGTGG TGGCGGTATT	3120
CCCCTCGTCA AAGAAAACAA TGGACATTTG ACTGGTGTG AAGCGGTAT TGATAAAGAC	3180
TTCGCTTCCC AACGTTTGGC AGAATTGGTT GATGCAGACC TCTTCATCGT TTTGACAGGT	3240
GTAGATTATG TATTTGTTAA CTACAACAAG CCAAAACCAG AAAAATTGGA ACATGTGAAT	3300
GTTGCCCAGC TGGAAGAATA TATCAAACAA GATCAGTTTG CACCAGGTAG CATGCTTCCA	3360
AAAGTAGAAG CAGCTATCGC TTTTGTCAAT GGTCTCCAG AAGGAAAAGC AGTTATTACT	3420
TCCCTTGAAA ATCTAGGCGC CTTGATTGAA TCTGAAAGCG GAACAATTAT TGAAAAAGGA	3480
TAAGTTGTTT TACTAATAAG ATGTATTCTA TTTCTAGTAT CTTTATATCA AATTAGAAAT	3540
TATTCCTGAA AACATGTACA ATATTTCAAA AGATACTAGT TTTAGACTTT AATATGGTAA	3600
AACAAATATA AATAGAAAGC GTTTTCTTGA ATGTTTATTT AAGAAAGTAG TTGGTTTTTT	3660
ACACTTTGTT AGACATCAGG AGGAAAAACA AATGAGTGAA AAAGCTAAAA AAGGGTTTAA	3720
GATGCCTTCA TCTTACACCG TATTATTGAT AATCATTCCT ATTATGGCAG TGCTAACTTG	3780
GTTTATCCCT GCGGGGGCCT TTATAGAAGG TATTTACGAG ACTCAGCCTC AAAATCCACA	3840
AGGGATTGTT GATGTCTTCA TGGCACCGAT TCGGGCTATG CTAGGTACTC ATCCAGAGGA	3900
AGGTTTCGCTC ATTAAAGAAA CGAGCGCAGC GATTGATGTA GCCTTCTTCA TCCTTATGGT	3960
TGGTGGTTTC CTTGGCATTG TCAACAAAAC TGGTGCTCTT GACGTAGGGA TTGCCTCTAT	4020
CGTGAAGAAG TATAAGGGCC GCGAAAAAAT GTTAATTTTG GACTGATGC CTTTGTTTGC	4080
CCTCGGTGGT ACAACTTATG GTATGGGTGA AGAAACAATG GCCTTCTATC CACTCCTTGT	4140
GCCAGTTATG ATGGCCGTTG GTTTTGATAG CCTGACTGGT GTTGCAATTA TTTTGCTCGG	4200

559

TTCTCAAATC GGCTGTTTGG CATCTACTCT GAATCCATTT GCGACAGGTA TTGCTTCAGC	4260
GACTGCGGGA GTTGGTACAG GGGACGGTAT CGTACTTCGT CTGATCTTCT GGTTACCTT	4320
GACTGCTCTT AGTACTTGGT TTGTTTACCG TTATGCGGAT AAGATTCAA AAGATCCGAC	4380
TAAGTCACTG GTTTATAGTA CTCGCAAAGA AGATTGAAA CACTTTAACG TAGAAGAATC	4440
TTCATCTGTA GAATCTACAC TTAGCAGCAA AAAAAATCA GTTCTCTTCT TATTTGTGTT	4500
GACATTCATC TTGATGGTAT TGAGCTTCAT TCCATGGACA GACCTTGGCG TTACCATTTT	4560
TGATGACTTT AATACTTGGT TGACTGGTCT TCCAGTTATT GGTAAATATG TCGGTPCATC	4620
TACTTCTGCA CTAGGTACTT GGTACTTCCC AGAAGGCGCA ATGCTCTTG CCTTTATGGG	4680
TATCCTGATT GGTGTTATTT ATGGTCTTAA AGAAGATAAG ATTATCTCTT CCTTCATGAA	4740
TGGTGCTGCT GACTTGCTCA GTGTTGCCCT GATCGTAGCG ATTGCTCGTG GTATTCAAGT	4800
TATCATGAAC GACGGTATGA TTACCGATAC AATCCTCAAC TGGGGTAAAG AAGGCTTGAG	4860
CGGTCTATCT TCACAAGTCT TTATCGTTGT AACTTATATC TTCTATCTAC CTATGTCATT	4920
CTTGATCCCA TCTTCATCTG GTCTTGCCAG CGCAACTATG GGTATCATGG CTCCACTTGG	4980
AGAAATTTGTA AATGTCCGTC CTAGCTTGAT TATCACTGCT TACCAATCTG CTTCAGGTGT	5040
CTTGAACCTG ATTGACACAA CATCTGGTAT TGTGATGGGA GCTCTGCAC TTGGACGTAT	5100
CAACATTGGT ACTTGGTGGA AATTCATGGG CAAACTCGTA GTCGCTATTA TTGTAGTGAC	5160
CATCGCCCTT CTTCCTCTG GAACCTTCCT TCCATTCTA TAAATACTG AGTGAGGTGA	5220
TTCCATGAAA ATAGATATAA CAAATCAAGT TAAAGATGAA TTTCTTATAT CATTAAAAAC	5280
CTTGATTTC TATCCTTCAG TACTCAATGA AGGAGAAAAT GGAACACCTT TTGGACAAGC	5340
AATCCAAGAT GTCCTAGAAA AAACCTTAGA GATTGTGCGA GACATAGGTT TCACTACCTA	5400
TCTTGACCCCT AAAGTTATT ACGGATATGC AGAAATCGGT CAGGGAGCAG AGCTTCTGGC	5460
CATTCTCTGT CATTTGGATG TTGTTCCATC AGGTGATGAA GCAGATTGGC AGACACCGCC	5520
ATTTGAAGCA ACTATCAAAG ACGGCTGGGT ATTCGGACGT GGTGTCCAAG ATGATAAAGG	5580
CCCTTCGCTC GCAGCTCTCT ATGCAGTAAA AAGCTTGCTG GACCAAGGTA TTCAGTTCAA	5640
AAAGCGCGTA CGCTTTATCT TTGGTACCGA TGAGGAAACC CTCTGGCGCT GCATGGCAGC	5700
CTACAATACC ATCGAAGAAC AGGCCAGTAT GGGCTTTGCA CCTGACTCAT CTTTCTCTCT	5760
GACCTATGCT GAAAAAGGC TTCTACAGGT CAACTTCAT GGCCTTGGAT CGGATCAACT	5820
AGAGCTTGAA GTAGAGGCG CCTTTAACGT TGTACCAGAC AAGGCCAACT ACCAAGGTCT	5880
CCTCTATGAA CAGGTTTGTA ACGGTCTCAA AGAAGCTGGT TATGATTACC AAACCACTGA	5940

560

ACAAACCGTA ACGGTTCTCG GAGTGCCAAA GCATGCTAAG GATGCTAGTC AAGGTAATCAA	6000
TGCTGTCATC CGACTAGCTA CCATTCTTGC TCCTCTCCAA GAACACCCTG CTCTCAGTTT	6060
TCTTGCAACA CAAGCAGGTC AAGACGGCAC AGGAAGACAA ATCTTTGGTG ATATAGCAGA	6120
TGAACCTTCT GGTACCTAT CCTTTAATGT CGCAGGTCTC ATGATCAATC ATGAACGTTT	6180
TGAAATCCGT ATTGACATTC GGAATCCTGT CTTAGCTGAC AAGGAAGAAC TAGTAGAGTT	6240
GCTTACAAGA TGTGCACAAA ACTACCAACT CCGCTACGAA GAGTTTGAAT ATCTAGCGCC	6300
TCTATACGTC GCAGAAGACA GTAAACTCGT TAGCACACTG ATGCAAAATCT ACCAAGAAAA	6360
GACTGGCGAT AACAGTCCTG CTATTTCATC CGGTGGTGCC ACTTTTGCTC GCACCATGCC	6420
AAATGTGTGA GCCTTCGGCG CCTTATTTCC AGGAGCGAAG CAGACAGAAC ATCAGGCAAA	6480
TGAATGTGCC GTTCTAGAAG ATTTGTACCG TGCTATGGAT ATTTATGCCG AAGCCGTCTA	6540
TCGACTTGCA ACTTAATCAG GCAACTGTTT CTACCAAAAA AAATCGACCG ATTAATGAAC	6600
TGCACCCCAA AAGTTAGACA GAATAAATCT AACTTTTGGG GTGTTTTATT ATGAAATGA	6660
GTTATGAAGA TAAAGTTCAG ATCTATGAAC TAAGAAAGCA AGGACAAAGC TTCAAACAGC	6720
TTTCAAAAAG ATTTGGTGTG GATGTTTCTG GTCTAAAGTC ATCTGAATCT TTGAGATGAG	6780
CTTTATAAAT CGCTTTTTC AGTTTTCGCA CTGGTGTTC GATAAACTCA AACTTTTTCAG	6840
CCGTGGTATT GCCTGATTTT ATAGTATATT GAAACTAGAA TAGTACACCT CTCCTTCTAA	6900
AACATTTTGA GAAATCGATT TGAATGCTCT GATCGATTTG TCCTGTTCTT ATTTTCATTT	6960
ACTATATTTG AGCCACTTCG TCTTTAACGG CTTTATTCAT AAGCTCTTGT AATTTTCTT	7020
TACTATCAAT TACTTCTGAT TTTCCGTGT AATTATTTGT AATAGGTTTT AACTTACCTA	7080
ATTTCTCGAC ACGCTCATTA ATTTGATCTT TTTTGAAGGC TGCTTATGTT TTTCCCTAAGA	7140
TTTTTTCAAA AATATATTTA TCAGATAGCG GTTTGTCTTC TTCTTCAGCT TGGTTTTTGT	7200
ATTAATTTGA AACATAAGGA ACAAAATCCT CATAGTAACC TAATGCTCCC ATAAGTTCAA	7260
AAGCTTGTTC TCTAATTCAA ACCATTGCAA CTCAGATTTC AGCTTTTCAG ATAAATCCTG	7320
CTCATCCAAA TAATGACTTG AAATTAGTGC TGAATCGTT TCTGTATCCT GTACAGGCTG	7380
AGCACCCATA CCAGCAAAAA ATAAACTCGT TCCTAGCAAG ACCGAACAAG CTCCTATTGC	7440
ATATGGCCTC AAAGAAAAAC GCTGCTTTCT CTCAAATTGA AATTCCTTCA TCCCATCTCC	7500
CATCATTCAT TATTACTGTA TATTTGTAT ATCAGAAATA GTTTGTATTC ACAAATCTTT	7560
CTAGTTATTC CCTATCATT CCTAATTAAG GGAGATAACA TACAATAATT TTTAGTTAAA	7620
TGTATATCGA TGTTTTTTGT TTTCTTAAT AAACGCAATA CAAAAAGAGC CTGTTACCAA	7680
GCTCTTTGTA CTCAATGAAA ATCAAAGAGC AAATTAGGAA ACTAGCCACA GGTGCTCAA	7740

561

AACACCGTTT TGAGGTGCA GATAGAACTG ACGAAGTCAG CTCAAACAC TGTTTTGAGG	7800
TTGCAGATAG AACTGACGAA GTCAGTAACA TCTATACGGC AAGGCGACGC TGACGTGGTT	7860
TGAAGAGATT TTCGAAGAGT ATTAGTCTAT TATTTCTTCT CAGCGCGAAG GGCTGACAAG	7920
ATTTGTGTTT GGATATCATC CACACCATTT GGAGTATTTG GTAAAAAGAT AGTTTGATTT	7980
CCTTTAGAGG CAAAGGTATT CAAGGTATCC AAATACTGGT TGGTCAAGAG GATAGACATG	8040
ATTTGTTCTT CTGTCAAGCC AACATTGGCT TCCTTGAGTT CGGTGATAGA CTCTGCCAAT	8100
CCATCCACAA TCGCCTTACG TTGTTGGGCA ATCCCCACAC CATGAAGGCG GTCTTTTCTT	8160
GCTTCTGCTT CAGCTGCAGT GACAATTTTA ATCTTGTCAG CTTCGCCAA TTCTTGCTCT	8220
GCGACCCGCT TACGTTGCGC CGCATTGATT TCATTCATGG ATTGCTTAAC TTCTGCATCT	8280
GGTTCGACCT TGGTAATCAA GGTTTTCACG ATAATGTAGC CGTAAGTGGT CATTTCTTCT	8340
GCTACTTGGT GTTGAACCTC AAGGGCAATC TCATCTTTTT TCTCAAACAA TTCATCCAAG	8400
GTTAATTTTG GAACAGAAGA GCGAAGAGCA TCTTCGATAT AAGATTTAAT CTGAGATTCT	8460
GGACGTATGA GTTTATAGTA AGCATCTGTC ACGCTCTGCT CGTTGACACG GTAGTGAGTC	8520
GCTACATTCA TCATAACGAA CACATTGTCC TTGGTCTTAG TCTCAACCAC AATATCACTT	8580
TGCAACAAGC GCAACTGAAT CCGTGCTGCA ATCGAGTCAA TCCCAAAAGG CAAGCGAATA	8640
TGAATACCGC TATTAGCAAC CTTTTGGTAT TTCCCAAAGC GTTCAATAAT CGCCACCGAC	8700
TGCTGACGAA CCACATAAAC TGTACTCAGT GTGACTATCA CCAATAGGAG CACACAAACA	8760
ATCAGAAAAA TCATGAAAAA TATTGCCATA ATGGAACCTC CACAAGTATT TTTCTAGTAT	8820
TATAGCACAT TTAAGAAGG CTGTGCCGTT TTTACTGCCA TTTTTCCTGA AATGTCAATA	8880
ATTAGAGGTG AATTGTCCCTA TTGTCTGCTA ATCTCTTGCT AAAATAACTC TTTATAAAAG	8940
GCAATCGTTT CTICTAAGGT TGGCATAAAT GGATTTCCTG GTGCGCAGGC ATCAATCAAG	9000
GCATTCTTAG AAAGGTATTC AAAGTCGAAA TCTTTTCTT CAATACCAAG TTCAGTCAGT	9060
TTCTTAGGAA TACCTACTGT CTCAGAAAGC TTCTCAATCT CAGCAATCGC ATAATCGGCA	9120
CATTCTTGAT CTGATTACC TTCTACATGA AGTCCCAAG CTTTGGCAAC ATTGCGGAAA	9180
GCTTCTGGTA CACGTTAGC ATTTTCACGT TCTATAACTG GTAGCAACAT GGCACAGCAC	9240
ACGG	9244

(2) INFORMATION FOR SEQ ID NO: 69:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 8898 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: double

562

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 69:

GATCTGAACT TTATCATCAT AACTTAATTT CATAATAAAA ACACCCCAAA AGTTAGATTT	60
TTTCTGTCTA ACTTTTGGGG TGTAGTTCAG TCATTGGACT GACGTTTTTT TGTATGCTTA	120
TTTTGATTG ATGTAGTTGA TACCATCTGC TTTTGGTGCG ACTGCTTTTC CAAAGAAGGC	180
TGCTAAGACA AGAATTGTCA AAACATAAGG TGCAATTTGA AGATAAACCG CTGGCACTCC	240
TTGTAGGAAC GGCAATTGAG AACCGATAAC AGCCAAACTT TGTGAAAGTC CAAAGAAGAG	300
ACTAGAAAGC ATAGCACCGA TTGGATTCCA TTTCCTCAAAG ATCATCGCAG CAAGGGCGAT	360
AAATCCAGGT CCAACAATAG TTGTCACTGA GAAGTTAACT GAGATTGATT GCGCATAAAT	420
CGCTCCGCCA ATTCCACCTA GAAAACCTGA AATAATAACC CCTAAATATC TCATCTTGTA	480
GACGTTGATT CCCAAGGTAT CCGCTGCTTG AGGATGTTCA CCGACAGAGC GGAGACGAAG	540
ACCAAATTGA GTCTTAAAGA GAATAAACCA AGCAAGGAAT GAGAAGGCAA TCGCCAGATA	600
ACCAAGTAGA CTAGTTGACT TGAAGAAGAT ATCACCAATC ACTGGGATAT TTGCCAAGAC	660
TGGGAAATCA AAGCGTCAA AACTTTGACT TAGGTTGTCG GTTTGTCTT TGTATAAAG	720
AACTTTAACT AAGAAAACAG CCAAGGCAGG CGCCATCAAG TTCAATACCG TACCGCTGAC	780
AACATGGTCT GCACGGAAAT GAACCGTCGC TGCTGCGTGG ATGATAGAGA AAACACTACC	840
AACCAATCCT GCTACAAGCA AGGATAGCCA TGGAGTTGCT GCTCCAAATT GTTCTGCAA	900
TTCAAGGTTA AAGACAATC CAGAAAAGGC ACCCATAACC ATAATTCTTT CAAGGCCAAC	960
GTTTACCACA CCACCACGTT CAGAGAAAAC ACCACCGATA CTTGTAAAGA TGAGAGGTGC	1020
TGAGTAAATC AGCATAGAAG ACACCAAGAG GGGGAGCAAG GTTATAATAG ACATCTTTAC	1080
TTACCTCCTT TAACTTGTTT TTTCGGTTTG ACAAAGCGTT CGATAAGGTA ATGAACACTG	1140
ACAAAGAAGA TAATAGACCG TGTACAATG CTGACAAGCT CAGATGGTAC CTGCGCCGCA	1200
TTCATACCAG GAGCCCCAAC TTGGAGAACG CCAAATAGGA AGGCTGCAAA GAGTATACCA	1260
ATTGGTGAGT TGGCCGCAAG CAAACTAACC GCCATTCCGT TAAATCCGAT AGCTAATGAC	1320
GAACCTTGAA CATAGACGTT CTGGAAGGTT CCCAAACCTT CAACAGCTCC ACCAAGACCT	1380
GCCAAGGCAC CTGAAATAAT CATAGATAGG ATAATAGTCC GCTTGGCAGA AATACCAGCA	1440
TATTCTGAAG CATGTGGATT AAGACCAACT GCACGGATTT CAAAACCAAG AGTTGTTTTT	1500
TTGAGCATGA ACCAAATAAC TGCAACGGCA ATGATGGCAA AGAAAATACC AATATTCATC	1560
CGTGAGTTAC CAGTCAATC AGCCAACCA GGTGCTGAT AGGTTGCATT AGCCCCAACA	1620

563

CGAATGGTCG AATCTGTACT TTGCATGAAG TCTTTAGGGA AAGCATGGAT AAAGGCATTC	1680
CCTACATACA AGACAATGTA GTTCATCATG ATGGTTACAA TAACCTCTGA CGTCCCTAGA	1740
TAGGCCCTAA GAATACCTGG AATCGCTCCG ACAATCCCAC CAGCAATCAA GGCAATCACG	1800
ATGGTTGCTA GAATCATCAA GGGACGGGGC ATATCTGGAT GCGACAGGGC AAACCAACCA	1860
CTGAGAATCC AACCTGCCAA AGCCTGACCA GGAAGTCCGA CGTTAAAGAA ACCAGCTCGA	1920
CTGGCAACGG CAAAACCAAG ACCAATCAAG ACCAGAGGAC CCATAGCACG GAAGATTTC	1980
CCAATCCCAC GCAGACTGCC AAAGGCTGTA TAGAACAATT CTTCGTAGCC CCAAATAGCA	2040
TCATAACCGA AGATCCACAT GACAATGGCT CCGAGTAAAA TTCCTAGGAA TACAGAAATC	2100
AAGGGAACCG AAATTTGTTG TAATTTTFTA GACATCACTC TTCTCCTTTC CCAAGTTTCC	2160
ACCAGCCATC AAGACACCAA GTTCTGTGTT ATTGCTGTGT TCTGGTGATA CAATACCTTG	2220
AATCTTACCA TCGTGGATAA CGGCAATACG GTCTGAGACG TTTAAATCT CATCCAATTC	2280
AAAGCTGACA ACAAGGACAG CCTTGCCATT ATCAGGCTCT TCAATCAAGC GTTGTGGAT	2340
ATACTCAATG GCACCGACAT CCAACCCACG AGTTGGCTGG CTAACGATAA GGAGATCAGG	2400
ATCTCGATCA ATTTCACGAG CAATAATTGC TTTTGTGTTGA TTTCTCCTTG AGAGTGCAGC	2460
TGCAGGAACT AATTCACTGG CAGCGCGAAC ATCAAACCTCT TCCATCAGCT TTTTAGCATA	2520
AGAAGTAATA TTTGAATAAT TCAAAATTCC ATTTTACTA TGTGGTTCTT TATAGTAGGT	2580
TTGAAGGGCA ATATTTTCAG ATATCATCAT TTCCAAAATC AAGCCATCAC GGTGACGGTC	2640
TTCTGGAACG TGCCCAACAC TTAGTTCTGT AATCTGACGT GGGTGCAAGC CTACAATTGA	2700
ATCTCCTTTT AGCTCAATGC TACCAGATTC AACCTTACGA AGACCTGTAA TGGCTTGAA	2760
CAGTTCAGAC TGACCATTTT CATCAATCCC CGCAATACCA ACAATCTCTC CAGCACGAAC	2820
ATCCAAGGAC AGATTTTTAA CAGCTGGAAC ACCACGGTTT TCATTGACCA CCAATCTTT	2880
GATAGACAAA ACCACTTCTT TTGGTTTGA GGCTTGCTTC TCTGTTTTAA AGGAAACAGA	2940
ACGTCCTACC ATCATTTCCG CCAATCAGC ATTGGTAGCC CCTGCAATTT CAACGGTTTC	3000
AATTGATTTC CCACGACGGA TAACTGTAAC ACGGTCAGAA ACTGCTCGAA TTTCATCCAA	3060
TTTGTGGGTA ATCAAGATAA TTGATTTTCC TTCTTTGACA AGATTTTCA TAATAGCCAT	3120
CAACTCATCA ATTTCTGATG GAGTCAAAAC AGCCGTGGT TCGTCAAAGA TAAGGATATC	3180
AGCCCCCGA TAAAGTGTTT TTAAAATTTT TACACGTGTG TGGGCTCCAA CTGAGATATC	3240
TGCTACCTTG GCAGAAGGGT CAACAGCTAA GCCATAACGT TCAGAAGAG CTTGATTTTC	3300
TTTGCTAGCT CCAGCGATAT CTAGCACACC ATTTTGTAGT AATTCACTAC CTAAAATGAT	3360

564

GTTTTTCAGCC	ACTGTGAAGG	CTTCAACCAA	CATAAAGTGC	TGGTGAACCA	TCCCATTCC	3420
CAAGCTAGCT	GCTTTAGATG	GGGAGTCGAG	ATTGACAACCT	TGACCGTTGA	CCGCGATTTC	3480
ACCACTAGTT	GGTCAAGAA	GGCCTGCTAA	CATGTTCAAT	AGCGTGGACT	TACCAGCCCC	3540
ATTTTCTCCT	AAAAGTGCAT	GAATTTACAC	TTTTCGTAGG	TGCAAGTTGA	TTTTGTCTGT	3600
GGCAACAAAT	CCACCAAACA	CCTTGGTAAT	ATCACGCATC	TCAATGACAT	TTTCGTGTGC	3660
CATGTGCTCT	TCCTTTCAGA	GTCTTATTTT	ATTCAATAA	AACCTGCTAG	TTTGCTAGT	3720
AGCAAGCTTT	ACTTAGACAA	AATGACTTTG	TCTCAACTCT	TAAAAAAGCG	GCCCTTGGCC	3780
GCTTCCTAAG	AAATGACTTC	CATCCATTAT	TTTTCAGGAA	CTTTTACGCT	TCCATCAAGG	3840
ATTTTAGCIT	TTGCATCTTC	GACAGCTTTT	TTACCTTCTT	CTGAAAGGTT	TGTTACTGCC	3900
AAGTCAACCC	CTTTATCCTT	CAATGAGTAA	ACGATCACTT	GACCGCCAGG	GAATTCCTCT	3960
CTTTCTGCCT	TGTTAGAAAT	ATCTTTTACA	GTTGTACCAA	CTTGTTTCAA	AGTAGATACA	4020
AGAACAAGT	TTGATTCCTT	GCCATCTTTA	GAAGTGTATT	TACCTTCTGC	TTCTTGGTCA	4080
CGATCAACAC	CGATAACCCA	AACTTTTTCA	TTTTCAGGAC	GGCTTTCGTT	GAGAGATTTT	4140
GCCTCTGCAA	AGACACCTGC	ACCTGTACCA	CCAGCTACTT	GGTAAACAAT	ATCTGCACCG	4200
GCTGCGTATT	GTGCGGCTGC	AATTGTTTTA	CCTTTAGCCG	CATCACCAAA	TGAACCAGCG	4260
TAGTCAACTT	GGACTTTGAT	AGATGGGTCT	ACTGACGCAA	CACCAGCCTT	GAATCCTGCT	4320
TCAAACGAG	AGATAACTTC	AGATTCGATA	CCACCTACAA	AACCAACTTG	TTTTGTCTTA	4380
GTTGTTTTTG	CTGCAGCCAC	ACCTGCAAGg	TAACTGACT	CATTATCAGC	GAAAGTTACG	4440
CTCGCAACAT	TCTTTTGGTC	TTTAATCACA	TCATCAATCA	AGACATAGTT	CAAGTCAGTG	4500
TGTTCTTTTG	CTGCATCTTT	AACTGCATTA	TTAAGGGCAA	AACCAACACC	GAAGATTAGG	4560
TTGTAACCTC	CAGCCGCTTG	TTGCAAGTTG	TTAGCGTAGT	CAGCTTCACT	TGTTGATTGG	4620
AAGTAAGTGA	AACCGTTATC	TTTGAAGA	TTGTGTTCTT	TACCCCAAGC	CTGCAAACCT	4680
TCCAAGCTG	ATTGGTTGAA	TGATTTGTCA	TCAACACCAC	CAGTATCAGT	GACGATTGCT	4740
GCTTTTGTCT	TCACATCAGA	AGATGAAGCT	GCGTTACGAG	AAGAGCGGTT	ACCACATGCA	4800
GCAAGTCCAA	CTGCTGCCAC	TGCAACTAGG	CCAAGACCTA	GCCATTGTTT	CTTGTTCAAT	4860
ACTGAACCTC	CTAAATAAGA	TGTGCAACGA	TGTTGCAAGT	ATGGATTGGT	TGGCCACAAG	4920
GACCGTGCCA	CTCAGAGAGC	GAATCAGACT	AGTTTAAGTC	TGTAAAAGAG	TATGGAAGTA	4980
ATCCCCGAC	CGTCATCTCG	ACCGTCGATT	TATCTTTTGC	GAATAAGGTC	ACTTTTAGAT	5040
CTTGTTCAAA	AAATTCAGCC	ATCACTTGGC	GACAAGCACC	ACATGGCGAG	ATCGGTTTTT	5100
CAGTTTGACC	ATAGACAATC	AATTCTGAAA	ATTCTCTTTG	GCCTTCAGAT	ATAGCCTTAA	5160

565

AAATAGCTGT TCTCTCACCG CAATTGGTCA AAGGATAGCT AGCATTTTCA ATATTCACTC	5220
CCGTGTAAAC ACTTCCGTCT TTAGCTACTA AAAGTCTCC GATAGGAAAG TGAGAATAGG	5280
GGACATAGGC ATGTTTGCTG GTTTC AATTG CCAGTTCAAT CAACTCAGTA GTCGCCATCT	5340
GCCAATTCTC CTTTTAAAT AGCTACCCCA GCTGACGTTT CGATACGGGT CGCACCTGCT	5400
TCCACAAAGG CAAGAGCATC TGCATAAGAA CGAGCTCCAC CGGCGGCCTT GACACCCATA	5460
TCAGATCCAA CTGTTTCACG CATTAATGTA ACATCTGCTA TCGTAGCACC ACCAGTTGAA	5520
AAGCCAGTAG ATGTTTTCAC AAAGTCAGCC CCAGCTTTTT GGGCCAATTG GCAAACAACA	5580
ACTTTTCTT GGTCTGTCAG AAGGCAAGCT TCAATAATGA CTTTCACTAA CTTATCACCA	5640
CTTGCTTCCA CTACTGCGCG AATATCTGAC TCAACCAAGG CTAAATTACC TGATTTGAGA	5700
GCTCCAACAT TGATCACCAT ATCAATCTCA TCTGCACCAT TTTGGATAGC TTCTTTTGTC	5760
TCAAATGCTT TCACGGCTGA AGTTGTTGCT CCCAAAGGGA AACCTACTAC TGTGCAAACC	5820
TTAACATCTG TGCTTCAAG TCCTTTTTTA GCATGTTCAA CCCAGGTCGG ATTAACGCAA	5880
ACACTGGCAA AGTCATACTC TCTAGCCTCA GACAACAAAC TATCAATTG TTTTTCCTT	5940
GCATCTTGTT TTAAGCGT ATGATCTATA TATTTATTTA ATTTCAATTC GGTTCCTCT	6000
CCATTTAGGA GATGATTTCT ACAATTTTAC GGATTTTTTT CACTTCATCA CTTATTTTAA	6060
CACATTTTGG GAAATCTGTA ACTAGTTGAG GTGGAATTTT TFCATTTGTG TATACTTTGG	6120
CAACAATTTT ACCCTTTTGA ACGGAGTCTC CAATCTTCTT TFCAAAAACA ATTCCTGTTT	6180
CATAGTCCAA GGCATCAGAC TTAAGTGCAC GACCAGCACC CAGCCTCATG GCATAAAGAC	6240
CAAAGTCCAT AGCTGGAAGA GCTGAAATGA CACCCGTTTC CTGAGCAGGG ATTTCCACCA	6300
CATGAGCTAC ATTTACAGGA CGATAGAGGT CTTCCAAGTC TCCACCTTGG GCTTGACCA	6360
TTTCCTCAA CTTAGCCAGT GCTTGACCAT TCTCAAGATG TTGGTGAACT TCTTCAACAG	6420
TTTTCTTAAC ATTTGCCAAA CCAAGCATAA TTTGAGCCAA TTCACAAATA AAGTGGGTAA	6480
TATCTGACG TCCTTGACCT TGCAAAATCT CCAATGCTTC AAGGATTTCC AGACGATTTT	6540
CAATCGCTCG TCCCAAAGGC TGCTCATAT CCGTAATCAC TGCTACTGTC TTCCGTCCAA	6600
CAACCTTACC AAGATCTACC ATAGTTTGAG CCAACTCACG CGCCTCATCA ACCGTCTTCA	6660
TGAAGGCACC CTCACCGACA GTCACGCTA GCAAAATAGC ATCCGCCCCC GCCGCAATTT	6720
TCTTGCTCAT CACCGAATC GCAATCAAAG GAATCGTGTC GACAGTTGCG GTCACATCAC	6780
GAAGGGCATA GAGAAGCTTA TCTGCTTTGA CCAGCTGGTC TGATTGCCCA ATGACAGATA	6840
CTCCAATATC CTGAACCTGA CGAATAAAAT CCTCTTGACT ACGTTCTACT TGATAGCCCT	6900

566

TAATGGACTC CAATTTATCA ATTGTTCCGC CTGTATGGCC AAGACCACGA CCACTCATTT	6960
TTGCTACAGG CACACCGAAG CTAGCAACAA GAGGAGCTAA AATCAAGGTT ACCTTATCGC	7020
CGACACCACC AGTAGAATGC TTGTCAACTT TCACACCATC AATGGCTGAC AGGTCAAAC	7080
CTTGCCCAAGT CTTAACCATA TTCATCGTTA AATCAGAGAT TTCTCGAGTC GTCATTTCCTT	7140
TAAATAAAC AGCCATAGCA AAGGCAGACA TCTGATAATC AGGAACAGTT CCTGATACAT	7200
AGCCTTCTAT CAGCCATTCA ATTTCACTTG AAGTCAGTTC TTGACCGTCT CGTTTTTTTT	7260
GGATTAAATC AACTGCTCTC ATTCTTTCAC ACTTCTAAGG ATATAGTATC CCTTGTCTTT	7320
TTTAAGGATT TCACAATTGC CAAACACATC TTCCATCTTA GACTTGGCAC TTGGAGCTCC	7380
TTGTTTTTTC TGGATGACGA TGGTCAAATC TCCACCAATT TCCAAGAAAT CTTTACTTTT	7440
CTCGATGATT TCATGAACGA CTTGCTTGCC CGCACGGATA GGAGGATTGG AAATGACATG	7500
GTCAAATCGC CCTTGAATC TTGCATAAAT ATTAGATTGA AATATCGTCG CTTTTGCATT	7560
ATTTTTCATCA GCATTCTCT GAGCTAAATC CAGGGCACGA GTGTTAATAT CAACCATGGT	7620
CGCCTGAACT CCGTAAACCT TGACCAAGGA CAAACCTAAT GGACCATAAC CACAGCCTAC	7680
ATCTAGGACT GTCTCTCCTT GGTGACATC CAGACACTTG AGCAAGAGTT GACTTCCAAA	7740
GTCAACCATT TTCTTGCTAA AAACACCCGC ATCTGTCAA AAAGTCATTT TTTCTCCCAA	7800
CAAGTCCACT CTCAACTCAT GAATGTCGTG AGCAGCGTCA GGATTTTCTG CATAGTACAT	7860
TTTACTCATG ACACTATTTT ACCATAATTT GACTCAAATT GTAAATCGTT TACAAATTGA	7920
TAATAAAACG AAAAAGACCG AAGAAAGCAA GTCACGAAGC CATTTTCTTC AATCTCTTTC	7980
AACACTTATA AATAATAAAC CATTTAGAAC TATAAATATC ACAGTCCAGA TAAAAACAAA	8040
AAGTTTATCA TCTATAATCA GGCAGATTAT TATTTCTATT GCTTAACCTT AAAATACTTT	8100
ATTATCAACA AAATTCCTAA CAAAATGTTT AGATAAAGC CCAACTGATA CGTTTATGTC	8160
AGGATTTCCA AACTTGTTCA AAGTCGTATC AAATCTTCTA GTGACATGTG GAAGAAATAA	8220
CCCTCTGTCG CAATCCGTAG GACTAAAAAG CAATAACTAC CCGCAGCAAT CCATTTCTGC	8280
CATCGTTTTT TAGTAAGAAA GCAATTAAGA ACGAACAAAT AAAGACAGCT GTTACAATAG	8340
CATGTTCCAT CAAAAAAGTA AAACCGTAAT AGGTTTCCAC AAAGCATCTA CCATTATCTG	8400
CATTGGTTCC TTTTATAAAA GTTAAAGCAA AACTTAAAT AAAACAGAGT TCCAATATGT	8460
AACGTTTTAA GATTTTCATA GTACACCTCC TATAAGTTGT GAACTAAAAA GCCCCCTTTA	8520
TAAGCTTATA AATCAGTAGA ATCTATCTCC TATTTTCATCA ATAAATTGAT CACTTATACT	8580
ATATACCATT GACTTACCAC ATTCAAGAAA CCGCTTTATT TTTTATAGCTT TTTATGGTAT	8640
GATAGACAAA ATATCTAGGG GAAAACAAAT GACCAACGAA TTTTACATT TTGAAAAAT	8700

567

CAGCCGCCAG ACTTGGCAAT CTTTACATCG AAAGACAACA CCTCCTTTGA CAGAAGAAGA	8760
ATTGGAATCT ATCAAGAGTT TTAATGACCA AATCAGTCTC CAAGACGTTA CAGATATCTA	8820
TCTCCCTTGA GCTCATTTGA TTCAGATTTA CAAGCGAACT AAGGAAGATT TAGCCTTTTC	8880
AAAAGGAATT TTCCTCCA	8898

(2) INFORMATION FOR SEQ ID NO: 70:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 13188 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: double
 - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 70:

TATCTTAACG aGGATTGGGT TTATCGTCAG TCTTATTGCC CTAATTGTGG GAACAATCCC	60
TTAAATCATT TTGAAAATAA TCGGCCTGTA GCAGATTTT ACTGTAATCA TTGTAGTGAG	120
GAGTTTGAAC TAAAGAGCAA AAAAGGAAAT TTTTCATCAA CAATCAATGA TGGTGCTTAT	180
GCAACGATGA TGAAGCGTGT GCAGGCAGAT AATAATCCTA ATTTCTTTTT TTAACTTAC	240
ACAAAAAATT TTGAGGTAAA TAACTTTCTT GTCCTTCCGA AGCAATTTGT TACACCGAAA	300
TCGATTATTC AAAGAAAACC ACTTGCACCA ACTGCTAGAC GAGCAGGTG GATTGGTTGT	360
AACATTGATT TATCACAAGT ACCTTCTAAA GGAAGGATAT TTCTTGTCGA AGATGGACAA	420
GTTAGAGATC CAGAAAAAGT TACAAAAGAA TTTAAGCAAG GTTTATTTTT AAGGAAGAGC	480
TCTCTGTTCAT CAAGAGGTG GACAATAGAA ATTCTAAATT GTATAGATAA GATAGAGGGT	540
TCAGAATTTA CCCTTGAAGA TATGTATCGT TTTGAAAGTG ACCTAAAAA TATCTTTGTT	600
AAGAACAATC ATATCAAAGA AAAGATTAGG CAACAGCTTC AAATATTAAG AGACAAAGAA	660
ATAATAGAAT TTAAAGGTAG AGGAAAGTAT CGGAAATTAT GAAAACGAAA CAACTTGTG	720
CATCAGAAGA GGTGTATGAT TTCTTAAAG TCATCTGGCC TGATTATGAA ACTGAAAGCC	780
GTTACGATAA CCTAAGTTTA ATCGTCTGTA CCTTATCAGA TCCCGATTGT GTGAGATGGT	840
TATCTGAAAA TATGAAATTT GGTGACGAAA AACAACAGC TTTGATGAAG GAAAAATATG	900
GGTGGGAAGT AGGAGATAAA TTGCCAGAGT GGCTACATAG CTCCTATCAT AGATTATTGT	960
TAATAGGTCA ATTATTGGA AGCAATCTAA AACTGAAAA GTATACAGTA GAAATTACAG	1020
AACTTTTATC ACGTTTAGTA AGTATAGAGG CTGAAATCC AGATGAAGCC GAACGACTTG	1080
TAAGAGAAAA GTATAAGAGT TGTGAAATTG TTCTTGATGC AGATGATTTT CAGGACTATG	1140

568

ACACTAGCAT ATATGAATAG GTAGATGTTT TTATTTTGTC AACAAAAAAG AGGCTCGCAC	1200
CTCTTTTCT TATTTCTTTT TATGATTAA TACGGCATTG AGGACAATAG CGAGTAGGCT	1260
GGCTACGACG ATTCCGTTTG AGAAGAACAT TTGGAAGGCT GTCGGCATGC TGACAAAGAG	1320
ATTACTGTTG TTGAGACCGA CACCTGCAGC GATTGAAACA GCTGCGATAA GGAAGTTGTG	1380
TTCATTGTTA GCAAAGTCAA CACGGGCGAG GATTTCATC CCTTGAATTG ATACAAAACC	1440
AAACATTACC AGCATGGCAC CACCGAGGAC GGAGCTTGGA ATGATTTGCG CAAGGGCGCC	1500
AAACTTAGGA AGCAGTCCAA GGAGAACCAG GAAACCAGCT GCGTAGTAGA TTGGCAGGCG	1560
TTTTTTGATG CCTGACAATT TAACCAAACC AACGTTTTGT GAAAATCCGG TGTAAGGGAA	1620
GGTGTAAAG ATTCTCCGA GAAGTACGGC CAAACCTTCT GCGCGGTATC CGTTGCGAAG	1680
GCCCGTGTG TCGATTGGAT CCTTTGTGAT ATCAGACAAG GCCAGATAA CACCAGTTGA	1740
CTCAACCATA GACACCGTTG CGATGATACA CATCATGACA ATAGATGAGA TTTCAAAGGT	1800
TGGCATCCCA AAGTAGAGTG GAGTTGGAC ATGGACAAGT GGAGCTACCG CAACAGGAGA	1860
GAAGTCCACC AAGCCCATAG TAGCAGCAAT GGCAGTTCCA ACAACCAGAC CAATCAAAAT	1920
AGAGATAGAC TTGATAAATC CTTTGGTAAA GATGTTGATC AAGAGGATAA TCAGAACAGT	1980
AATAGCTGCA AGCAAGAGAC TTTGACCAGT TGGCTCTGGA ACGTTATTTT CCATATTTCC	2040
AATAGCGACA GGGATCAAGG TTAAACCAAT CGTGGTAATA ACAGATCCCTG TTACGATAGA	2100
TGGGAAGAGA TTGGCTACTT TTGAGAAGAT GCCTGAAACA AGAACACCGT AAATCCCAGA	2160
TGCGATAAGG GCACCAAACA TAGCGCCACT ACCATGGCTT TGCCCAATCA TAATCAAGGG	2220
AGCGACCGAC TGGAATGCAA CTCCAAGAAC GACTGGGAGT CCAATCCCAA AGTATTTGTT	2280
GAGTTGGAGT TGGAGGAAGG TTGCCACCCC ACACATGAAG ATATCTGTAG AAATCAGGTA	2340
GGTCAACTGC TCAGCTGAAT AGCCAAGGGC TGTGCAATC ATGATGGGAA CCAGGATAGA	2400
TCCTGAGTAC ATGGCTAGTA AGTGCTGCAA GCCAAGAAGC GCTGCTTGCG AGTGTTTTTC	2460
TTGAGTTTGC ATTAGAGATC TGCTCTCTTA AATACGACTT GACCATTTTC AAAACAATCC	2520
AAACGAGCAA GTGATAGGAC AGGGTAGCCT GCTTTTTCAT GCAAATCACG ACCATCTTGG	2580
AAGGATTTCT CAATCACGAT ACCGATAGCT TGGACTGTGG CACCGGCCTG TTCGATGATT	2640
TGAATCAAGC CTTTAGCAGC TTGGCCATTA GCAAGGAAAT CGTCGATAAT CAAAACCTTG	2700
TCCTCTGGTG AGAGGAATTT TTCAGCGATA GAAACGGTGC TGGTCACCTG CTTGGTAAAG	2760
GAGTAGACTT GAGCAGTTAA GATGCCTTCG TTCATGGTGA TGTTCCTAGC TTTTGTGGCG	2820
AAAATCATGG GAACGTTTAA GGCTTCAGCT GTAAAAACGG CTGGGGCAAT ACCCGACGCT	2880
TCAATGGTTA CGACCTTGGT AATGCCAGTA GTAGCAAATT TTTCCGCAA AACCTTACCA	2940

569

ATCTCTCGCA TCAAGCTAAA GTCAACTTGG TGGGTAAAA AGGAATCTAC CTTGAGGATG	3000
TTATCACCCA AGATATGCCC ATCCTTGAGG ATCGCTCTT CTAATAATTT CATAAGACCT	3060
CCTAAAGTCT AAAAGTTAAT TTAATTGTTG TTAAATATT TCTATAGTGA TCCCTTTTGC	3120
TAATACTATA TATTGATAA AACTATTACG AGCGAAGCGA GTCTTATCAA ATATTTCCCG	3180
TTGTAGTGGT ATCATAGACA ATAATCTTGT TATTGTCTAT GACGGGATTT TTGAGAGTAA	3240
AATAGTTCGG GGAACATTTT TAGCCTAAGC CTAGAAATGA AAGAGCTAGG GGCTCAAAAA	3300
TTAGGGATGA AATCCCTGG ATTCTGAAA TTATTCACAG GATAATTTCA CCTCCCGTCC	3360
GCCTAATTA AGGGAATAT TAAAAAAGA CCTACTTAAT CTCTAAGTAA GTCCCTTAAA	3420
TAGACATGGC AAAAACGGCC ATATCTCACT GCTGACTTAC TTATTGTTAG GTGTCCGGC	3480
ACCTTGTAGA AACGTCGTGC CAATTCACGA CATAACAAG TAAAACGATA TTCAATTTTA	3540
AATAGGCTTG AGCCAATGTT TTTATTTTAC ACTAAATAAC TTTAGAAATC AACTATTTTG	3600
TTAGTGTTTT GGTAAAAA ACGAACAAA AGAAGAGAGG GTGAACAAA ACTCCATTGT	3660
AAGCTAACAG TTATACTAAA TGAAATCAA AGAGCAAACT AGGAAGCTAT CCACAACCTC	3720
AAAACACTGT TTTGAGGTTG TGGATAGAAT TGACAGAGCC AGTATCATAT ACCTACGGTA	3780
AGGCGACGTT GACGTGGCTT GAAGAGATTT TCGAAGAGTA TTAGAAGATT TTTCCATCAT	3840
AAAAGGCATA CTATCAAGCT TTTAGACACC TGACAATATG CCTTTTCTA ACTTTAAAGA	3900
CTTTTCCCAA TTTTATTAT TCTACTCGCT AAATCTTAAA AAATAGCCAT CTGGATCCAA	3960
AACTGCAAAT TTATGAGGAT AGATATAGGG ATCACTGACA CGAACTTTC TTTTGGTCAA	4020
GGGACGATAA ATAGGATAGT TTGCCTTCAT CACTCTTTAA TAGAGTTTGG AACATCCTT	4080
TATGCCAAAG GAGAGATTGA CTCCACGACC AAAGGGATAG GTCAGTTCAG CTAGTTGATC	4140
CTTTGTCCC TCCTCTAACA TTAGTTGACA CTCTTCAAGA GAAAGAGAAA GTTTTCTTCT	4200
GGACGTTGGT ATTCAATCCT AAAACCCAGT AAACCACAGT AGAAGGACCG GGAAGTTTCG	4260
ATATTCGATA CAAGCAACTC GGAATGACC GCATTGTAGT CCATATAGAA AATCCTTACA	4320
AGTCAATTTT CAAGACAATC GGTGTATGGT CTTGGCGAGC ACCTGAGTCA ATCATATCAG	4380
ATTTAGTGAC CTTGTCAGCG ATACGGTTAC TTGTGAGCCA GTAGTCGATT CTCCAGCCTG	4440
TATTGTTGAT TTTAGAAGTT TTGCTGCGTT GTGCCACCA AGTGTAGCGT TCAGGAACAT	4500
CGCCATGAAC ATGGCGGAAG GTGTCTGTAA ATCCAGTTGC CAAAAGTTG GTAAATCCAG	4560
CACGTTCCTC GTCAGTAAAT CCAGGTGAAC GCGGTTGCT AGCAGGATTT GCAAGGTCGA	4620
TTTCATGTG GGCTACGTTG TAGTCACCG TCGCAAGGAC TGTTTTTCT TTGTCTAGTT	4680

570

CAGCCAAATA CTCAGCATAT TTGGCATCCC AGACTTGGCG TTCTTCCAAG CGTTTGAGAC	4740
CGTCACCAGC GTTTGGAGTG TAAACTTGGG TTACGAAAAA TGCATCAAAT TCTAGAGTGA	4800
TGATACGACC TTCCAAGTCC ATGGTAGAAG GGGCACCGAT TTCTGGGAAG CTGATAGTAG	4860
GTGTAAGTTC TTTCTTATAA AGGAACATGG TTCCAGCATA GCCTTTACGG GCAGGCTCTT	4920
GGGAAGAGCG CCACGTGTTT TCGTAGCCTG GGAAGAGTTC TTCTAAAATT TCCACGTGTT	4980
TCTTTGTAGG TCCTTTGGCA GAAAGCTTGG TTTCTTGAT AGCAATGATA TCAGCATTTT	5040
CAGCGACCAA GGTTTGTAGG ACTTCTTGGG ACAATTTGGC ACGAGCTGAG TCACTAGTTA	5100
GGGCGCGTT TAGGGAATCA ATATTCCATG AGATAAGTTT CATAAAGTTA CCTTTTTCAT	5160
TCAGATTATA GATTTTATTA TACCAAAAA AGATCTATTT CCCCACGTA TGGTTTGAAA	5220
AATTACTCTC TTTCGTTTAT AATTAAGAAT GATTTTATGA AAGGGAGTGA AAATACATGA	5280
AATTCTACTC TTATGACTAT GTACTCAGCC AAATCGGTCA GCAAAATGGT ATCATGGTTG	5340
GCTTTGGGAT TGTTCATTA GCTGTGACAG TTTTTTTTGC TTTCAAGGCA TACCATAATA	5400
AAAAGGGAAG CGAATTTCGT GAGTTGGTCA TGATTTCAGA TCTGGCCTTA TTTAGCTCTG	5460
CTTTTGGTCA GCATCACGAC TTATCAAAAC AATCAAGTTT CTAACAATAA ATTTCAAAC	5520
TCACTTCATT TCATCGAGGT TGTTCCTCAA GATTGTGAG TAGACAAGTC AGAAGCTAT	5580
GTTAATACTT CCACAAACAC AGATGGCGCA CTTATCAAGG TGGGAGATCG CTATTATCGT	5640
GCCCTAAATG GAAGTGAGCC AGACAAGTAC CTGTTAGAGA AAGTCGAATT GTATAAGACA	5700
GACGCAATTG AACTGGTGGA TGTGAACAAA TGACACTTAA TTATATCGAA ATTTTAATCA	5760
AACTGGTCTT GACTCTCAA TAGCTCAACA ACAATGTTCA CTTTGTGAAA CGTTTGATTG	5820
ATGGTAAGCC AACTCTCCTT ATCAAAAATG GGAATATTGA CCCAGAAGCC TGTCCCTCAG	5880
TTGGTTTGTC TGCATCGGAT GTATCCCTCA AACTTCGTAG CCAAGGGATT TTCCAGATGA	5940
AGCAAGTCAA ACGAGCTGTG CAAGAGCAA ATGGGCAACT CATCGTTGTG CAAATGGGAG	6000
ATGAAAATCC TAAGTATCCA GTTGTGACTG ACGGTGTGAT TCAAGTAGAT GTCTTGGAAT	6060
CGATTGGTCG TAGCGAAGAG TGGTTGCTTG ATAACTCAG TAAACAAGGG CATGACAATG	6120
TAGCCAATAT CTTTATTGCT GAATATGACA AGGGTGCTGT TACACTCGTA ACTTATGAAT	6180
AAGAAAACCC TGGGGTCTTG TACTCTTCGA AAATCTCTTC AAACCGCGTC AACGTCGCCT	6240
TGCCGTATGT AGGTACTGA CTTCTGTCAGT TCTATCTACA ACCTCAAAGC AGTGCTTTGA	6300
GCAGCCTGCG GCTAGTTTCC TAGTTTGCTC TTTGATTTTC ATTGAGTATT GGCCTCAGGT	6360
TTCCATTGTC AATCAGAAAG GGATTTTATG TCCATTATTC AAAAATTTTG GTGGTTTTTC	6420
AAGTTAGAAA AACGCCGTTA TCTAGTCGGA ATTGTGGCCC TGATCTTGCT TTCCGTCCTC	6480

571

AATCTCATTC CTCCTATGGT TATGGGGCGG GTCATTGATG CCATCACATC GGGGCAATTA	6540
ACCCAGCAGG ACCTCCTTCT TAGCCTATTT TACTTGCTAC TTGCAGCCTT TGGTATGTAC	6600
TATTTGCGCT ATGTGTGGCG TATGTATATC CTTGGGACCT CTTATTGCTT GGGACAGATC	6660
ATGCGGTCTC GCTTGTTTAA GCATTTTACA AAAATGTCGT CAGCCTTTTA TCAAACCTAT	6720
CGGACGGGTG ATCTGATGGC ACACGCAACC AATGATATCA ATGCCTTGAC TCGTTTAGCA	6780
GGTGGCGGTG TCATGTCTGC GGTGGATGCC TCTATCACGG CTCTGGTGAC TTTGTTGACC	6840
ATGCTCTTTA GCATCTCATG GCAGATGACT CTTGTTGCCA TTCTCCCCCT ACCTTTCATG	6900
GCCTATACGA CTAGTCGCCT AGGGAGAAAG ACTCATAAGG CCTTTGGCGA ATCCCAAGCT	6960
GCTTTTCTG AACTCAATAA CAAGGTACAG GAGTCCGTAT CAGGTATCAA AGTGACCAAG	7020
TCTTTCGGTT ATCAGGCAGA CGAGTTGAAG TCTTTTCAGG CAGTCAATGA ATTAACCTTC	7080
CAAAAGAACC TGCAAACCAT GAAATATGAT AGTCTCTTTG ACCCTATGGT TCTCTTGTTT	7140
GTTGGTTTCT CCIATGTTTT AACGCTTTTG GTTGGCTCCT TGATGGTTCA GGAAGGCGAG	7200
ATTACAGTTG GGAATCTAGT CACCTTTATC AGCTATTTGG ATATGCTGGT CTGGCCTCTT	7260
CTGGCCATCG GTTTCCTCTT TAATACTACT CAGCGAGGGA AGGTTTCTTA CCAGCGGATT	7320
GAAAATCTTT TGTCTCAGGA ATCTCCTGTA CAAGACCCTG AGTTTCTCTT GGATGGTATT	7380
GAAAATGGGC GTTTGGAGTA TGCCATTGAC AGCTTTGCTT TTGAAAATGA GGAAACACTG	7440
ACGATATTC ACTTTAGTTT GCGAAAAGG CAAACACTGG GCTTGGTTGG GCAGACAGGC	7500
TCTGGGAAA CGTCCTTAAT CAAGCTCCTC TTGCGTGAAT ACGATGTGGA TAAGGGTGCC	7560
ATTTATCTAA ACGGTCACGA TATTCGGGAC TATCGTCTGA CAGACCTTCG CAGTCTCATG	7620
GGCTATGTTT CTCAGGACCA GTTCTTTTTT GCGACTTCAA TCCTAGACAA TATCCGCTTT	7680
GGCAATCCTA ACTTGCCCCT TTCAGCGGTC GAGGAAGCTA CTAAGCTAGC CCGGGTTTAC	7740
CAAGATATTG TAGACATGCC TCAAGGATTT GATACGCTGA TTGGTGAAAA AGGAGTCAC	7800
CTTCTGGTG GTCAAAAGCA ACGGTTGGCT ATGAGTCGGG CTATGATTTT AGACCCTGAT	7860
ATCTTGATTT TGGATGATT CTTATCCGCC GTAGATGCCA AGACAGAGTA TGCGATTATC	7920
GACAACTCA AGGAGATGCG AAAGGACAAG ACAACCATTA TCACTGCCCA TCGCCTCAGT	7980
GCTGTTGTCC ATGCAGATTT TATTTTAGTT CTACAAAATG GTCAAATTAT CGAACGAGGC	8040
ACGCACGAAG ACTTGCTAGC TTTGGATGGC TGGTATGCCC AAACCTACCA GTCTCAGCAG	8100
TTGGAAATGA AAGGAGAAGA AGATGCAGAA TAAACAAGAA CAATGGACTG TATTGAAGCG	8160
CTTGATGTCT TATCTCAAGC CTTATGGACT CCTGACCTTT TTGGCACTCA GTTTTCTCCT	8220

572

AGCGACGACG	GTCATTAAAA	GTGTCATACC	CCTCGTGGCT	TCCCACCTTA	TCGACCAGTA	8280
TCTCAGCAAT	CTTAACCAAC	TAGCCGTTAC	CGTTTGTGCTG	GTCTACTATG	GTCTCTACAT	8340
CCTACAAACT	GTAGTTCAGT	ATGTCGGCAA	TCTTCTCTTT	GCGCGCGTGT	CTTACAGTAT	8400
TGTTAGGGAT	ATTCTGTCGGG	ATGCCCTTGC	CAATATGGAG	AAACTGGGCA	TGTCTTACTT	8460
TGACAAGACG	CCAGCAGGTT	CTATCGTTTC	TCGTTTGACC	AACGATACCG	AGACGATTAG	8520
TGATATGTTT	TCTGGGATTT	TATCCAGCTT	TATCTCAGCA	GTTTTTATCT	TTCTGACAAAC	8580
CCTTTATACC	ATGTTGGTGC	TGGATTTTCG	TTTGACGGCT	TTAGTCTTGC	TCTTTCTTCC	8640
TTTGATTTTC	CTTTTGGTCA	ATCTCTATCG	AAAAAAGTCA	GTGAAAATCA	TCGAGAAAAAC	8700
CAGAAGTCTC	TTGTCAGATA	TCAATAGTAA	GCTGGCAGAG	AATATCGAGG	GAATCAGGAT	8760
TATTTCAGGCC	TTTAATCAAG	AGAAGCGCCT	GCAGGCAGAA	TTTGATGAAA	TCAACCAAGA	8820
ACACTTGGTC	TACGCCAACC	GTTCCTGTAGC	CTTGATGCC	CTCTTTTGA	GACCTGCCAT	8880
GAGTTTGCTG	AAACTTCTAG	GCTATGCAGT	CTTGATGGCC	TACTTTGGCT	ACCGTGGTTT	8940
TTCTATCGGG	ATAACGGTCG	GGACCATGTA	TGCCTTTATC	CAGTACATCA	ACCGCCTTTT	9000
TGACCCCTTG	ATTGAGGTGA	CGCAAACTT	TTCAACTCTG	CAAACGGCTA	TGTTTCTGTC	9060
AGGTCGTGTC	TTTGCCCTGA	TAGACGAGAG	GACCTATGAA	CCTCTTCAAG	AAAATGGGCA	9120
AGCCAAAGTC	CAAGAAGGCA	ATATCCGTTT	TGAACATGTG	TGTTTCTCAT	ATGACGGTAA	9180
ACATCCGATT	CTGGATGACA	TTTCTTTCTC	TGTTAATAAG	GGTGAAACCA	TTGCCTTTGT	9240
AGGTCATACA	GGTTCAGGGA	AATCGTCTAT	TATCAATGTC	CTCATGCGCT	TTTATGAATT	9300
CCAGTCAGGG	AGAGTTCTCT	TGGATGATGT	GGATATCAGG	GATTTTCAGTC	AAGAAGAGCT	9360
GAGAAAAAAC	ATCGGTTTGG	TCTTGCAGGA	ACCCTTCCTC	TATCATGGAA	CTATTAAGTC	9420
CAATATCGCC	ATGTACCAAG	AAACCACTGA	TGAGCAGGTT	CAGGCTGCGG	CAGCCTTTGT	9480
GGATGCAGAT	TCCTTTATT	AAGAACTTCC	TCAGGGGTAC	GACTCCCCTG	TTTCCGAGCG	9540
TGGTTCGAGC	TTCTCTACTG	GGCAACGCCA	GCTTCTTGCC	TTTGCTAGAA	CAGTCGCCAG	9600
CCAGCCTAAA	ATCCTGATTT	TGGATGAAGC	GACAGCCAAT	ATTGACTCTG	AAACAGAAAG	9660
CTTGCTTCAA	GCTTCTCTGG	CGAAGATGAG	ACAGGGCCGA	ACAACTATTG	CTATCGCTCA	9720
CCGCCTTTCT	ACTATTCAAG	ATGCCAACTG	CATCTATGTC	TTGGATAAAG	GACGCATTAT	9780
CGAGAGTGGA	ACCCATGAGG	AACTCTTGGC	TCTGGGAGGA	ACCTATCACA	AGATGTATAG	9840
TTTGCAGGCA	GGGGCCATGG	CCGATACTCT	TTGAAAATCT	CTTTAAACCA	TGTCAGCTTT	9900
ATCTGCAATC	TCAAAGCTGT	ACTTTGATTT	TCATTGAGTA	CTAGAAGGAA	ATCCTTCAAA	9960
TTACAGATTT	CTTTCACCGC	CTTTTCCATT	TTGTGGTATA	ATGAAAAATG	TTGACAAATA	10020

573

GTATAATAAA AACAAAGGAG AACAGCATGC TGAAATGGGA AGACTTGCCT GTGGAAATGA	10080
AATCAAGCGA GGTGAGTCT TACTACCAGC TTGTCTCTAA AAGGAAGGGT TCGCTGATTT	10140
TCAAGCGTTG CTTGGA CTGGACTGG GTTTTGGCCT TGGTCTTACT GGTCTGACC TCTCCCATCT	10200
TTCTCATCTT GAGCATTGG ATCAAGTTGG ATAGCAAAGG GCCAGTGATT TACAAGCAAG	10260
AGCGTGTGAC CCAGTACAAC CGTCGGTTCA AGATTGGAA GTTTCGTACC ATGGTGACGG	10320
ATGCGGATAA AAAAGGAAGT CTGGTGACTT CTGCTAACGA TAGCCGCATT ACCAAGGTTG	10380
GAAATTTTCAT CCGACGTGTC CGTTTGGACG AACTGCCTCA GTTGGTCAAT GTCCTTAAAG	10440
GTGAGATGTC CTTTGTGGT ACACGACCTG AAGTGCCACG TTATACAGAG CAGTATAGCC	10500
CTGAAATGAT GGCAACCTTG CTCTTGCAAG CAGGGATTAC CTCTCCAGCC AGCATCAACT	10560
ACAAGGATGA GGACACAATT ATCAGTCAAA TGACGGAGAA AGGTCTGTCA GTTGATCAGG	10620
CCTATGTGGA GCATGTTCTT CCTGAAAAGA TGCGCTATAA CCTCGCCTAT CTCCGAGAGT	10680
TTAGTTTCTT TGGGGACATC AAAATCATGT TTCAAACCGT GTTTGAGGTA CTAAATATAA	10740
GTAGTCATAA GAAATGAGT ACAGATAAAA GGAGCAAATC AATGCCAAAT TACAATATTC	10800
CATTTTCACC GCCTGATATC ACAGAAGCAG AAATTACTGA AGTAGTGGAT ACCCTGCGTT	10860
CTGGTTGGAT CACAACAGGT CCTAAAACAA AAGAACTGGA GCGCCGCTTG TCTCTTTACA	10920
CACAGACACC TAAGACTGTT TGTCTCAACT CTGCGACAGC CGCTCTGGAG TTGATTTTAC	10980
GCGTTTGGGA AGTGGGACCT GGTGATGAAG TCATCGTTCC AGCCATGACC TATACGGCTT	11040
CATGTAGTGT CATTACGCAC GTGGGAGCAA CCCCTGTCTAT GTTGATATC CAAGCAGATA	11100
CGTTTGAGAT GGA CTATGAC CTGCTTGAGC AAGCTATCAC TGAGAAAACT AAGGTGATTA	11160
TTCCAGTAGA GCTCGCAGGG ATTGTTTGCG ATTATGACCG TTGTTCCTAA GTCGTGGAGA	11220
AAAAACGTGA CTTCTTTTACC GCTTCAAGCA AGTGGCAAAA GGCCTTTAAC CGTATTGTCA	11280
TTGTCTCTGA TAGTGCCAC GCTTTGGGAT CTATTTATAA AGGACAACCT TCTGGTTCTA	11340
TCGCTGACTT TACTTCCTTC TCATTCCATG CAGTTAAGAA CTTTACAACG GCAGAAGGTG	11400
GAAGTGCAC TTGGAAGCC AATCCAGTGA TTGATGACGA AGAGATGTAC AAGGAATTCC	11460
AAATCCTTTC CCTTCACGGG CAACTAAGG ATGCTCTTGC CAAGATGCAA CTGGGGTCAT	11520
GGGAATACGA TATCGTTACA CCAGCCTATA AGTGCAACAT GACCGATATC ATGGCTTCAC	11580
TTGGTTTGGT ACAATTGGAC CGCTATCCAA GTTTGTTGCA ACGCCGTAAG GACATTGTGG	11640
ACCGCTATGA TAGTGGTTTT GCAGGTTCTC GCATCCATCC TTTGGCACAC AAGACTGAAA	11700
CTGTGGAATC TTCACGCCAC CTCTACATCA CCCGTGTAGA AGGAGCAAGC CTAGAAGAAC	11760

574

GCAACCTCAT CATCCAAGAA TTGGCTAAAG CAGGAATTC AAGTAATGTT CACTACAAAC	11820
CGCTTCCTCT CTTGACAGCC TATAAGAATC TTGGATTTGA TATGACGAAC TATCCTAAGG	11880
CCTATGCGCTT CTTTGAGAAT GAAATTACCC TCCCTCTTCA TACTAAATTA AGCGATGAAG	11940
AAGTAGACTA TATCATTGAG ACTTTCAAAA CAGTTTCTGA AAAAGTGCTA ACTTTATCAA	12000
AAAAATGACA AACTACAGTC AAGCGAAAGT GATCCTGCCC CTAAAAAGTC TAATTGAGTG	12060
TAAAACTGT TGTTTTCAAT TGATAATAGT TTACACCTGT AGTTGAGGCC CCTTCTCCT	12120
CAGAGAGAGA ATTTTATAG GATTTTCCTT TCTTGTGGGA GTCCCGTGGT TTGAAATAAG	12180
ATGTGAGCAA TTTAGTGTAG CATTTAGAAT CCTTACTAGA CATCATTTAG AAAATCTAGT	12240
GTCTTGTTCT AGTTTCAAT TCACCCTATT TTTTGAAAGA CGTGAGTTTC CATGAGTGAG	12300
ATTGTGGAAG CTCGCGTCTT TTTTGTGTTT CAGAAATATG TTCAAAATTT TGTGCCTGTC	12360
TTTCATGTTT TAGTCATTCT TTTGCATGAT AGAA'TTTATA GCATGTTGAT ATTATAATAA	12420
TACAAATATT CTATATCTTT AGTGATGCTT GCTATACATT ATTAGATCTC CTGCGAGACA	12480
ATCTATAAAA CACTTGCTA CGATTACCTA TATGCCCTAT TCCAGTATTT TAGAAGCACT	12540
GCATCTATTT TTATCGAGGT TAAATCTAGC TTTTATAGAA GGTCTATTTA AGAAATATAT	12600
TGTAGTGTTT TAGTTTCAAT CCGCCATATG AGCGATATTC AGGTAAATAT CCCTGGCGAA	12660
TGCTTGATG ACAAGGTATT TGTCTTTCA TTTATAATTT ACAACATATC AACAAATTTA	12720
AATATAGTAA ATGGCATATT TTATATTCAA GCTAAGAAAG ATAGCATCAC TTTTGAATGG	12780
AAGGCTAAAG AGCAAACTAG GAAGTTGGCC ATAGATAGCT CAAAACCTG CTTTGAGGTT	12840
GTAGATATAG TAAATGAAA TGAGAATAGG ACAAATTGAT CGGGACAGTC AAATCGATTT	12900
CTAACAATGT TTTAGAAGTA GAGGTGTAAT ATTTTAGTTT CAGTCTACTA TAGAACTGAC	12960
CAAGTCAGTA ACCTAGACTT AGGGCAAGGC GGCCTGACC TAGTTTGAAG AGATTTCCTGA	13020
AGAGTATAAA TTTTAATATT TTCTTGTTT ATTCCTTGAC AATTCAATTT GGAAATATA	13080
TGATAAAGAT AATGACAGCG GTGTCATTCT ATCTATTTTA AGAAAAGTAA TAATCAATTG	13140
TTAAAAATAG TAAAAAATTT GGAGTTCTG ATGAAATATT TTGTTCCG	13188

(2) INFORMATION FOR SEQ ID NO: 71:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 32768 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: double
 - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 71:

575

AACGAGTGCA TCAGTCTCAG CAAGCACCAG TGCCTCGGCC TCAGCAAGCA CCAGCGCGTC	60
TGAATCCGCA TCAACCAGTG CCTCAGCTTC AGCAAGTACC TCAGCATCTG AATCAGCATC	120
AACAAGTGCA TCGGCTTCAG CAAGCACAAG TGCTTCAGCC TCAGCAAGTA TCTCAGCGTC	180
TGAATCGGCA TCAACGAGTG CGTCCGCTTC AGCAAGTACT AGCGCCTCAG CATCAGCGTC	240
AACAAGTGCT TCGGCTTCAG CGTCAACGAG TGCCTCTGAG TCAGCATCAA CGAGTACGTC	300
AGCCTCAGCA AGCACATCAG CTTCTGAATC TGCATCAACC AGTGCCTCAG CCTCAGCATC	360
GACAAGCGCC TCAGCTTCAG CAAGTACCAG TGCCTCAGCC TCAGCAAGTA CCAGTGCTTC	420
AGCCTCAGCG TCGACAAGTG CGTCGGCCTC AACCAGTGCA TCTGAATCGG CATCAACCAG	480
TGCGTCAGCC TCAGCAAGTA CTAGCGCCTC AGCCTCAGCA TCAACGAGTG CGTCCGCTTC	540
AGCAAGTACT AGTGCATCAG CATCAGCATC AACGAGTGCA TCGGCTTCAG CAAGTACCAG	600
CGCCTCAGCT TCAGCAAGCA CCAGTGCGTC AGCCTCAGCA AGTACCAGCG CCTCAGCCTC	660
AGCAAGCACC AGTGCCTCAG CTTCAGCAAG TACCAGTGGC TCAGCCTCAG CGTCGACAAG	720
TGCGTCGGCT TCAGCAAGTA CCTCAGCGTC TGAATCAGCA TCAACGAGTG CATCAGCTTC	780
AGCATCAACA AGTGCTTCAG CTTCAGCAAG TATCTCAGCG TCTGAATCGG CATCAACGAG	840
TGCGTCCGCT TCAGCAAGTA CTAGCGCCTC AGCATCAGCG TCAACAAGTG CTTCCGGCTTC	900
AGCGTCAACG AGTGCCTCTG AGTCAGCATC AACGAGTACG TCAGCCTCAG CAAGCACATC	960
AGCTTCTGAA TCTGCATCAA CCAGTGCGTC AGCCTCAGCA TCGACAAGCG CCTCAGCTTC	1020
AGCAAGTACC AGTGCCTCAG CCTCAGCAAG TACCAGTGCT TCAGCCTCAG CGTCGACAAG	1080
TGCGTCGGCC TCAACCAGTG CATCTGAATC GGCATCAACC AGTGCCTCag CCTCAGCAAG	1140
TACTAGCGCC TCAGCCTCAG CATCAACGAG TGCCTCCGCT TCAGCAAGTA CTAGTGCATC	1200
AGCATCAGCA TCAACGAGTG CATCGGCTTC AGCAAGTACC AGCGCCTCAG CTTCAGCAAG	1260
CACCAGTGCG TCAGnCTCAG CAAGTACCAG CGCCTCAGCC TCAGCAAGCA CCAGTGCCCTC	1320
AGCTTCAGCA AGTACCAGTG CGTCagCCTC AGCGTCGACA AGTGCCTCGG CTTCAGCAAG	1380
TACCTCAGCG TCTGAATCAG CATCAACGAG TGCATCAGCT TCAGCATCAA CAAGTGCTTC	1440
AGCTTCAGCA AGTACCAGTG CGTCGGCTTC AGCATCAACG AGTGCTTCAG TCTCAGCGTC	1500
AACCAGTGCC TCTGAATCAG CATCAACAAG TGCCTCGGCT TCAGCAAGCA CCAGTGCGTC	1560
GGCTTCAGCA AGTACTAGTG CATCGGCTTC AGCATCGACA AGTGCCTCTG AATCGGCATC	1620
AACGAGTGCT TCGGCTTCAG CATCAACGAG TGCCTCAGCC TCAGCAAGCA CATCAGCTTC	1680
TGAATCTGCA TCAACCAGTG CGTCCGCTTC AGCGTCAACC AGTGCCTCGG CTTCAGCGTC	1740

576						
GACAAGTGCT	TCGGCTTCAG	CATCAACGAG	TGCGTCGGCC	TCAGCAAGCG	CAAGTACCTC	1800
AGCGTCAGct	TCCGCCTCAA	CCAGTGCGTC	GGCTTCAGCA	AGCACAAGTG	CGTCAGCCTC	1860
AGCAAGTATC	TCAGCGTCTG	AATCGGCATC	AACGAGTGCG	TCTGAGTCAG	CATCAACGAG	1920
TACGTACGCC	TCAGCAAGCA	CATCAGCTTC	TGAATCTGCA	TCAACCAGTG	CGTCAGCCTC	1980
AGCATCGACA	AGCGCCTCAG	CTTCAGCAAG	TACCAGTGCT	TCAGCCTCAG	CGTCGACAAG	2040
TGCGTCGGCC	TCAACCAGTG	CATCTGAATC	GGCATCAACC	AGTGCGTCAG	CCTCAGCAAG	2100
TACTAGTGCA	TCAGCTTCAG	CATCAACGAG	TGCATCGGCT	TCAGCATCAA	CCAGTGCCTC	2160
GGCTTCAGCG	TCAACCAGTG	CGTCAGCTTC	AGCAAGTACC	AGTGCTTCAG	TCTCAGCATC	2220
AACAAGTGCT	TCAGCCTCAG	CATCGACAAG	TGCCTCGGCT	TCAGCAAGCA	CATCAGCATC	2280
TGAATCAGCG	TCAACCAGTG	CTTCGGCTTC	AGCAAGTACC	AGTGCTTCAG	CTTCAGCATC	2340
AACCAGCGCC	TCGGCCTCAG	CAAGCACCTC	AGCTTCTGAA	TCGGCCTCAA	CCAGCGCCTC	2400
GGCCTCAGCA	AGCACCTCAG	CTTCTGAATC	GGCCTCAACC	AGCGCCTCAG	CCTCAGCATC	2460
AACGAGTGCT	TCGGCTTCAG	CAAGCACAAG	CGCCTCGGGT	TCAGCATCAA	CGAGTACGTC	2520
AGCTTCAGCG	TCAACCAGTG	CTTCAGCCTC	AGCATCAACA	AGTGCGTCAG	CCTCAGCAAG	2580
TATCTCAGCG	TCTGAATCGG	CATCAACGAG	TGCGTCTGAG	TCAGCATCAA	CGAGTACGTC	2640
AGCCTCAGCA	AGCACCTCAG	CTTCTGAATC	GGCCTCAACC	AGTGCGTCAG	CCTCAGCATC	2700
GACAAGCGCC	TCAGCTTCAG	CAAGTACCAG	TGCTTCAGCC	TCAGCGTCGA	CAAGTGCGTC	2760
GGCCTCAACC	AGTGCATCTG	AATCGGCATC	AACCAGTGCG	TCAGCCTCAG	CAAGTACTAG	2820
TGCATCGGCT	TCAGCATCAA	CCAGTGCCTC	GGCTTCAGCG	TCAACCAGTG	CGTCAGCTTC	2880
AGCAAGTACC	AGTGCTTCAG	TCTCAGCATC	AACAAGTGCT	TCAGCCTCAG	CATCGACAAG	2940
TGCCTCGGCT	TCAGCAAGCA	CATCAGCATC	TGAATCAGCG	TCGACAAGCG	CCTCAGCTTC	3000
AGCAAGTACC	AGTGCGTCAG	CCTCAGCGTC	GACAAGTGCG	TCAGCCTCAG	CAAGTACTAG	3060
TGCATCAGCT	TCAGCATCAA	CGAGTGCATC	GGCTTCGGCG	TCAACCAGTG	CATCAGAGTC	3120
AGCAAGTACC	AGTGCGTCag	CTTCCGCATC	AACAAGTGCC	TCGGCTTCAG	CAAGCACCAG	3180
TGCGTCGGCT	TCAGCAAGTA	CTAGCGCCTC	AGCCTCAGCC	TCAACCAGTG	CGTCAGCCTC	3240
AGCAAGTATC	TCAGCGTCTG	AATCGGCATC	AACGAGTGCG	TCCGCTTCAG	CAAGTACTAG	3300
CGCCTCAGCC	TCAGCGTCAA	CAAGTGCATC	GGCTTCAGCG	TCAACGAGTG	CGTCTGAATC	3360
GGCATCAACG	AGTGCGTCCG	CTTCAGCAAG	TACTAGCGCC	TCAGCCTCAG	CGTCAACAAG	3420
TGCATCGGCT	TCAGCATCAA	CGAGTGCGTC	CGCTTCAGCA	AGTACTAGCG	CCTCAGCCTC	3480
AGCGTCAACA	AGTGATCGG	CTTCAGCGTC	AACGAGTGCG	TCTGAGTCAG	CATCAACGAG	3540

577

TGCGTCAGCC TCAGCAAGCA CATCAGCTTC TGAATCTGCA TCAACCAGTG CGTCAGCCTC	3600
AGCATCGACA AGCGCCTCAG CTTCAAGCAAG TACCAGTGCG TCAGCCTCAG CGTCGACAAG	3660
TGCGTCGGCT TCAGCAAGTA CCAGTGCCTC AGCCTCAGCA AGTACCAGTG CGTCAGCCTC	3720
AGCGTCGACA AGTGCGTCGG CCTCAACCAG TGCATCTGAA TCGGCATCAA CCAGTGCCTC	3780
AGCCTCAGCA AGTACTAGTG CATCAGCTTC AGCATCAACG AGTGCATCGG CTTCAAGCATC	3840
AACCAGTGCA TCAGAGTCAG CAAGTACCAG TGCGTCAGCT TCCGCATCAA CAAGTGCCTC	3900
GGCTTCAGCA AGTACTAGCG CCTCAGCCTC AGCGTCAACA AGTGCTTCAG CTTCCGCGTC	3960
AACCAGCGCC TCGGCCTCAG CAAGTATCTC AGCGTCTGAA TCGGCATCAA CAAGTGCCTC	4020
GGCTTCAGCA TCAACGAGTG CATCAGTCTC AGCAAGCACC AGTGCGTCGG CCTCAGCAAG	4080
CACCAGCGCG TCTGAATCCG CATCAACCAG TGCCTCAGCT TCAGCAAGTA CCTCAGCATC	4140
TGAATCAGCA TCAACAAGTG CCTCGGCTTC AGCAAGCACA AGTGCTTCAG CCTCAGCAAG	4200
TATCTCAGCG TCTGAATCCG CATCAACGAG TGCCTCCGCT TCAGCAAGTA CTAGCGCCTC	4260
AGCATCAGCG TCAACAAGTG CTTCCGCTTC AGCGTCAACG AGTGCGTCTG AGTCAGCATC	4320
AACGAGTACG TCAGCCTCAG CAAGCACATC AGCTTCTGAA TCTGCATCAA CCAGTGCCTC	4380
AGCCTCAGCA TCGACAAGCG CCTCAGCTTC AGCAAGTACC AGTGCGTCAG CCTCAGCAAG	4440
TACCAGTGCT TCAGCCTCAG CGTCGACAAG TGCGTCGGCC TCAACCAGTG CATCTGAATC	4500
GGCATCAACC AGTGCGTCAG CCTCAGCAAG TACTAGCGCC TCAGCCTCAG CATCAACGAG	4560
TGCGTCCGCT TCAGCAAGTA CTAGTGCATC AGCTTCAGCA AGTACTAGCG CCTCAGCCTC	4620
AGCGTCGACA AGCGCCTCAG CTTCAAGCAAG TACCAGTGCG TCAGCCTCAG CGTCGACAAG	4680
TGCGTCGGCT TCAGCAAGTA CCTCAGCGTC TGAATCAGCA TCAACAAGTG CGTCGGCTTC	4740
AGCATCAACG AGTGCATCAG CTTCAAGCATC AACAAGTGCT TCAGCTTCAG CAAGTACCAG	4800
TGCGTCGGCT TCAGCATCAA CGAGTGCTTC AGTCTCAGCG TCAACCAGTG CCTCTGAATC	4860
CGCATCAACA AGTGCTTCGG CTTCAAGCAAG CACCAGTGCT TCGGCTTCAG CGTCAACGAG	4920
TGCGTCTGAG TCAGCATCAA CGAGTGCGTC AGCCTCAGCA AGCACATCAG CTTCTGAATC	4980
TGCATCAACC AGTGCGTCAG CTTCCGCATC AACAAGCGCC TCGGCTTCAG CAAGTACAAG	5040
TGCTTCAGCC TCAGCATCAA CCAGTGCATC AGCTTCAGCC TCAACAAGTG CTTCAAGCCTC	5100
AGCGTCAACC AGTGCTTCGG CTTCAAGCAAG TACCAGTGCG TCAGCTTCAG CAAGCACAAG	5160
TGCGTCAGCT TCAGCATCAA CCAGTGCTTC GGCTTCGGCA TCAACAAGTG CCTCAGCATC	5220
AGCATCAACG AGTGCGTCAG CCTCAGCAAG TACTAGTGCA TCAGCATCAG CATCAACCAG	5280

578

TGCATCAGCC TCAGCAAGTA TCTCAGCGTC TGAATCGGCA TCAACGAGTG CATCAGCATC	5340
AGCATCAACG AGTGCATCGG CTTCAGCGTC AACCAGTGCA TCAGTCTCAG CAAGCACCAG	5400
TGCGTCGGCT TCAGCATCAA CGAGTGCCTC AGCCTCAGCA AGTATCTCAG CGTCTGAATC	5460
GGCATCAACG AGTGCCTCAG CCTCAGCAAG TACTAGTGCA TCGGCTTCAG CAAGCACCAG	5520
TGCGTCGGCT TCAGCATCAA CCAGTGCCTC AGCCTCAGCA AGTATCTCAG CGTCTGAATC	5580
GGCATCAACG AGTGCCTCAG CCTCAGCAAG TACTAGTGCA TCAGCmTCAG CATCAACGAG	5640
TGCGTCGGCT TCAGCAAGTA CCAGCGCCTC AGCTTCAGCA AGCACCAGTG CGTCAGCCTC	5700
AGCAAGTACC AGCGCCTCAG CCTCAGCAAG CACCAGTGCC TCAGCTTCAG CAAGTACCAG	5760
TGCGTCAGcT CAGCATCAAC AAGTGCTTCA GCTTCGGCCT CAACAAGTGC GTCAGCTTCA	5820
GCATCAACGA GTGCGTCGGC TTCAGCAAGC ACCAGTGCCT CGGCCTCAGC AAGCACCAGT	5880
GCTTCAGCTT CAGCATCAAC AAGTGCGTCA GCTTCAGCAA GTACATCAGT TTCAAATTCA	5940
GCAAACCATT CGAACTCACA AGTTGGAAAT ACTTCTGGAT CGACAGGTAA ATCCCAAAAA	6000
GAATTGCCATA ATACAGGTAC TGAGTCGTCA ATTGGATCTG TGTACTTGG AGTTCTAGCA	6060
GCTGTTACAG GTATTGGATT GGTGCGAAA CGCCGTAAAC GTGATGAAGA AGAGTAAGAC	6120
AACCTGTAAA GTTAGGCTAA ACTAACTCGC GCACATAAAT CAAGGAGAAA ATTGCTAGTC	6180
GATGATAAAA TAACAGTCAT TCTACCAGTA TACAATGTGG AAACTATCT GAGGAAGTGC	6240
CTAGATAGTA TTATTACTCA AACATATAAA AATATTGAGA TTGTTGTCGT TAATGATGGT	6300
TCTACGGATG CTTCAGGTGA AATTTGTAAA GAATTTTCAG AAATGGATCA CCGAATTCTC	6360
TATATAGAAC AAGAAAATGC TGGTCTTTCT GCCGCACGAA ACACCGGTCT GAATAATATG	6420
TCCGGAATTT ATGTGACCTT TGTGGACTCG GATGATTGGA TTGAGCAAGA TTATGTAGAA	6480
ACTCTATATA AAAAAATAGT AGAGTATCAG GCTGATATTG CAGTTGGTAA TTATTATTCT	6540
TTCAACGAAA GTGAAGGAAT GTTCTACTTT CATATATTGG GAGACTCCTA TTATGAGAAA	6600
GTATATGATA ATGTTTCTAT CTTTGAGAAC TTGTATGAAA CTCAAGAAAT GAAGAGTTTT	6660
GCTTTGATAT CTGCTTGGGG TAAACTCTAT AAGGCAAGAT TGTTTGAGCA GTTGCCTTTT	6720
GACATAGGTA AATTAGGAGA AGATGGTTAC CTCAATCAAA AGGTATATTT ATTATCAGAA	6780
AAGGTAATTT ATTTAAATAA AAGTCTTTAT GCTTATCGGA TTAGAAAAGG TAGTTTATCA	6840
AGAGTTTGGA CAGAAAAGTG GATGCACGCT TTAGTTGATG CTATGTCTGA ACGTATTACG	6900
CTACTAGCTA ATATGGGTTA TCCTCTAGAG AAACACTTGG CAGTTTATCG TCAGATGTTG	6960
GAAGTCAGTC TCGCCAACGG TCAAGCTAGT GGTTTATCTG ACACAGCAAC GTATAAAGAG	7020
TTTGAAATGA AACAAAGGCT TTTAAATCAG CTATCGAGAC AAGAGGAAAG TGAAAAGAAA	7080

579

GCCATTGTCC TCGCAGCAAA CTATGGCTAT GTAGACCAAG TTTTAACGAC AATCAAGTCT	7140
ATTTGTTATC ATAATCGTTC GATTCGTTTT TATCTGATTC ATAGCGATTT TCCAAATGAA	7200
TGGATTAAGC AATTAAATAA GCGCTTAGAG AAGTTTGA CTGAGAAATTAT TAATTGTCGG	7260
GTAACCTCTG AGCAAATTTT ATGTTATAAA TCGGATATTA GTTACACAGT CTTTTTACGC	7320
TATTTTCATAG CTGATTTTCG GCAAGAAGAC AAGGCCCTCT ACTTGGACTG TGATCTAGTT	7380
GTAACGAAAA ATCTGGATGA CTTGTTTGCT ACAGACTTAC AAGATTATCC TTTGGCTGCT	7440
GTGTAGAGATT TTGGGGGCGAG AGCTTATTTT GGTCAAGAAA TCTTTAATGC CGGTGTCTCT	7500
TTGGTAAACA ATGCTTTTTG GAAAAAAGAG AATATGACCC AAAAATTAAT TGATGTAACC	7560
AATGAATGGC ATGATAAGGT GGATCAGGCA GATCAGAGCA TCTTGAATAT GCTTTTTGAA	7620
CATAAATGGT TGAATTTGGA CTTTGATTAT AATCATATTG TCATTCATAA ACAGTTTGCT	7680
GATTATCAAT TGCCTGAGGG TCAGGATTAT CCTGCTATTA TTCACTATCT TTCTCATCGG	7740
AAACCGTGA AAGATTGGC GGCCCAAACC TATCGTGAAG TTTGGTGGTA CTATCATGGG	7800
CTTGAATGGA CAGAATTGGG AAAAAACCAT CATTTACATC CATTACAAAG ATCTCACATC	7860
TATCCAATAA AGGAACCTTT CACTTGCTTA ATCTATACTG CCTCAGACCA TATTGAACAA	7920
ATTGAGACAT TGGTTCAATC CTTGCCTGAT ATTCAGTTTA AGATAGCAGC TAGAGTAATA	7980
GTTAGTGATC GATTGGCTCA GATGACAATT TATCCAACG TGAATATATT TAACGGAATT	8040
CACTATTTGG TAGATGTCGA TAATGAATTG GTAGAAACCA GTCAAGTACT TTTAGATATT	8100
AATCATGGCG AAAAGACAGA AGAAATCTC GATCAATTTG CTAATCTTGG CAAGCCTATC	8160
TTATCCTTTG AAAATACTAA AACCTATGAA GTAGGTCAGG AGGCATATGC TGTGACCAA	8220
GTTCAGCAA TGATTGAAAA ATTGAGAGAA ATAAGCAAAT GAAGAAAAAT CATTTAGTAG	8280
GAGATGCTCT GATTTTGACG GTTAGTGATC AGATTGAAGA GTTGGATTAT TTTTATAAA	8340
ATTTCTCCGT TCATCATATA TGAAAGTTGT TCAAACATCA GAGTGCTTTA TAAAATATAA	8400
ATAGACCTAA AGATATTTAA TATGAAGTGC ACCCCAAAAG TTAGACAGAA AAAATCTAAC	8460
TTTTTGGsGT CAGTACAATA TTAGGGGTG ATTAATTATC TTTTTAGGTG AAAATGATTC	8520
TATATTATAG CTGTTTGATA CGAAATTTAT TATAAGGAAA TTATGTTAAT GAATACAAAA	8580
TCTATAGTTT TTAATGCAGA TAATGATTAT GTAGATAAAT TAGAACTGC AATTAAATCT	8640
ATTTGTTGTT ATAATAATTG TTTAAAATTT TATGTATTTA ATGATGATAT TCGGTCAGAG	8700
TCGTTTTTGA TGATGAATAA GCGATTGAAG ACTATACAAT CTGAAATCGT TAATGTAAAG	8760
ATTGTAGATC ATGTTCTTAA AAAGTTTCAT TTACCGTTAA AGAATTTAAG TTATGCCACT	8820

580

TTCTTTTCGTT ATTTTATACC TAATTTTGTC AAAGAAAGTC GTGCTTTATA CCTAGATTCT	8880
GACATCATTG TTACAGGAAG TTTAGACTAT TTATTTGATA TAGAACTAGA TGGTTATGCC	8940
TTGGCAGCAG TAGAAGATTC TTTTGGTGAT GTTCCTTCTA CCAATTTTAA CTCCGGAATG	9000
TTATTAGTTA ATGTAGATAC TTGGAGAGAT GAAGATGCTT GTTCGAAACT GTTAGAACTG	9060
ACCAATCAAT ATCATGAAAC AGCATATGGA GATCAAGGAA TTTTAAATAT GTTATTCCAT	9120
GATAGATGGA AAAGATTAGA CCGAAATTTT AATTTTATGG TGGGGATGGA TAGCGTCGCA	9180
CACATAGAAG GAAATCATAA ATGGTATGAG ATTTCTGAGT TGAAAAATGG AGATTTACCT	9240
AGTGTATAC ATTATACTGG GGTAAACCT TGGGAAATAA TTTCCAATAA TCGCTTTAGA	9300
GAAGTTTGGT GGTTTTATAA TCTGTTAGAA TGGTCTGATA TTTTATTGAG AAAAGACATT	9360
ATTAGTCGTA GTTTCGAAGA ACTTGTATAC AGTCCTAAAG CTCATACAGC AATTTTACA	9420
GCTAGTTGTG AGATGGAGCA TGTAAGATAT TTGATAGAAA ATTTACCAGA GTACATTTT	9480
TCTATACTAG CACATACATA TTTTGCCTCT AGTGTCTGTT CTTTATTAAAG ATATAGCAAT	9540
GTTACGATTT ATCCTTGTTT TTCTCCATTT GATTATCGAA AAATTTTGGG TAATTTAGAT	9600
TTTTATTTAG ATATTAATCA TTATAAGAA GTGGATAATA TTGTATCCGT TGTCAACAA	9660
CTATCTAAAC CAATTTTAC CTTTGAAAAA ACTAGTCATG ATATAGGCAA TCAAATAAT	9720
ATATTTTCTT CAACCGAACC AAACAAAATG GTAGAGGCTA TTAGACAATT TATAGGAGAA	9780
TAAGTTTATG GCAGACGAAC TAATTAGTAT TGTAGTTCCA ATCTACAACG TTGAGAATTA	9840
TTTGCGAATG TGTTTGATA GCATTCAGAA TCAGACGTAT CAAAATTTG AGTGTATTAT	9900
AATCAATGAT GGCTCTCCAG ATCATTTCATC CAAAATATGT GAAGAAATTTG TAGAGAAAGA	9960
TTCTCGTTTC AAATATTTTG AGAAAGCAAA CGGCGGTCTT TCATCAGCTC GTAACCTAGG	10020
TATTGAATGT TCGGGGGGG GCGTACATTA CTTTGTAGA CTCTGATGAT TGGTTGGAAC	10080
ATGATGCTTT AGACCGATTA TATGGTGCTT TGAAAAAGGA AAACGCAGAT ATTAGTATCG	10140
GGCGTTATAA TTCTTATGAT GAAACACGCT ATGTGTATAT GACTTATGTT ACGGATCCAG	10200
ATGATTCTCT AGAAGTGATA GAAGGTAAAG CAATTATGGA TAGGGAAGGT GTCGAAGAAG	10260
TCAGAAATGG GAACTGGACT GTAGCTGTCT TGAAGTTATT CAAGAGAGAC TTAATAAAG	10320
ATTTACCATT TCCTATAGGA AAAATTGCAG AGGATACTTA CTGGACATGG AAGGTACTTC	10380
TAAGAGCTTC GAGGATAGTC TATTTGAATC GTTGTGTTTA CTGGTACCGT GTTGCTTTAT	10440
CTGATACTTT ATCGAATACA TGGAGTGAAA AGCGTATGTA TGATGAAATT GGGGCTAGGG	10500
AAGAAAAGAT AGCTATTTTA GCAAGTTCAG ACTATGACTT GACCAATCAT ATTTTGATTT	10560
ATAAAAATAG ATTACAAAGA GTGATAGCAA AATTAGAAGA ACAAATATG CAGTTCACAG	10620

581

AGATTACAG AAGAATGATG GAAAAATTGT CTTTACTTCC GTAGATAGTA ATAAAAAATG	10680
AGATAGCGTA ATATGAACT ACATTTAACA AATTATACG GCATGGCTGG TGATAGTACG	10740
GTTATCTTAG CTCAAAATGC TGTTCAAAAG ATAGCTAGTC AACTGGGATT TAGAGAGGTT	10800
GGTATTTATT TTTACAACAT TGCTTCAGAT AGTCCTTCTG AAATGAATAA GCGTCTGGAT	10860
GGTATTATGG CCAGTATCTC TATTGGGGAT ATTTTAGTCT TTCAGTCTCC AACCTGGAAT	10920
GGTTTTGAAT TTGATCGTCT CTTGTTTGAT AAGCTAAAGG ATATGCAGGT GAAAATTATT	10980
TGCTTTATCC ATGATGTTGT TCCCTCATG TTTGATAGTA ACTATTATCT CATGAAAGAT	11040
TATCTGTATA TGTATAATCT ATCAGATGTT TTGATAGTGC CGTCAGAGAG AATGAAAACA	11100
CGCCTGATGG AAGAAGGATT GACGACTAAG AAGATTCTTG TTCAAGGGAT GTGGGATCAT	11160
CCTCATGATT TATCCTTATA CCCCCTGCT TTTAAAAAAG AACTTTTTTT TGCTGGAAGT	11220
TTAGAGCGTT TTCCAGACTT ACAAATTGG TCTCAAGATA CGCCTTTGAG AGTATTTTCA	11280
AATAAGGGG AAGCTAGTTC TAGTGCTAGA AGTCTCAGCA TCGAAGGATG GAAAAAGAT	11340
GAGGAATTGT TGCTAGAATT ATCAAAGGGT GGATTTGGCC TTGTCTGGGG AACCCATCAA	11400
AATGAGGGAG AAAGTAACCA ATACTATACC TTGAATATAT CTCATAAGGT GAGTACCTAT	11460
CTAACAGCGG GCATTCCAGT CATTGTACCA AGTAGCTTGT CAAC TGCTAA ATTTATAGTA	11520
GATCAAGGCT TGGGCTTTAT GGCGGATAGT CTGGAAGAGG TTCATGAGAT AGTTGATAAA	11580
ATGAATCTAC AAGAATATCA AGAAATGACG AATCGTATCA AGACCTTTAG CTATTTGTTA	11640
AAAGAGGGCT ATTTCACTAA AAAGTTATTG GTAGATGCAA TCTATCACTT GGGAATTGAT	11700
TAAGGGAATG AAATCAACAA AACAATTGTA CTAGCAGGGG ATCGCAATTA CACCAGGCAG	11760
TTAGAAACAA CGATAAAATC TATTTTATAC CACAATCGAG ATGTTAAGAT TTATATTTTG	11820
AATCAAGATA TCATGCCAGA TTGGTTTCGC AAACCACGAA AAATAGCTCG CATGTTAGGT	11880
AGTGAGATTA TCGATGTTAA ACTACCTGAA CAAACTGTGT TTCAAGATTG GGAAAAGCAA	11940
GATCACATTA GTAGCATTAC TTATGCTAGA TATTTTATTG CAGATTATAT CCAAGAAGAT	12000
AAGGTTTTAT ATTTAGACAG TGATTGATT GTAAATACTT CTTTAGAGAA ATTATTTAGT	12060
ATTGTTTAG AAGAAAAATC ACTCGCAGCA GTTAAAGATA CAGATGGAAT TACATTTAAT	12120
GCAGGTGTTT TATTAATCAA CAATAAAAAA TGGCGTCAAG AGAAATTAAA AGAACGACTA	12180
ATTGAACAGA GCATTGTAC AATGAAGGAA GTTGAAGAAG GCCGTTTCGA GCATTTTAAT	12240
GGTGATCAA CGATTTTAA TCAGGTCTTG CAAGATGATT GGTAGAAGT AGGTCGAGCT	12300
TATAATTTAC AAGTAGGGCA TGATATTGTG GCTTTGTATA ACAATTGGCA GGAACATCTG	12360

582

GCTTTTAATG ATAAACCAGT GGTGATTCAT TTTACGACCT ACAGAAAACC CTGGACTACC	12420
TTGACAGCCA ATCGTTATCG TGATTTATGG TGGGAATTCC ATGATTTGGA GTGGAGTCAG	12480
ATTTTACAAC ACCATATGGG AGAATTTGAA CTAATATCGC CTCTAGATAA GGAATTTTCT	12540
TGCTTAACCT TAACGAATTC CCAAGATTTA GAAGGAATAG AAGAGCTAGT TACAGCTCTA	12600
CCTGAGGTGG TATTTTCATAT CGCAGCTTGG ACGGATATGG GAGATAAATT AAAAAAATTA	12660
GCTGTATATA ATAATGTGAG ATTGCATCCA CAAATTGTTT CACCGGCTCT AGATAAGCTG	12720
AAAAAGTCAA CAAATCTATA TTTGGATATC AATCATGGTA GTGCAGATGA GAACTTTTTA	12780
AAATCTTTGC AAGAACAAGA AAAACGCTA CTAGCTTTTC AATCGACTCA GCACGGAGAG	12840
TTAGACAAA TCGTTTTCGA AAATGGGAAA GTTTCCTTTA TGATTGATAC GATTAAAGAT	12900
TTTAAGAAAA ACGGACATCT TACCTGTTTT CGACAACCTC CAAGTTTAAC TTGTTTAACG	12960
TTTACGGCTT CTCAGTATAT CGAACAATTG GATTACTTGG CTGGACAGTT GCCAAATGTT	13020
GTTTTTCAAA TTGCTGCTTG GACAGCTATG GGGCCAAAAT TATATGATTT GTCTAATCGT	13080
TATCCTAATA TTCAGCTCTA TCCGGCAATT TCTAGAGATA AGCTAGACGA GTTGAAGGAG	13140
AAGATGGATG CTTATTTAGA TATCAACCTA CTGACTTCAA CATCCGATAT CGTTGCAGAA	13200
ATGGCTCATC TATCTAAACC TATACTAGCC TTTTATAAAT CTCAAAATGG GAATAATGGC	13260
CAAAGGTTGT ATTCAAGTGA ACATCCTGAA CGAATGTTGG CTGATTTGCA AAAATTGATA	13320
ACTAAGGATA TGCTAGAAAA ACCGCTTGAT ATAATCCAGG TGAAAGGGAT AGATGAAACC	13380
TTGGATTATA TTATTGAACA CAACTCTTCT TTAGTTCGTT TTGGAGATGG GGAAATCAAT	13440
ATGCTTGCGA GGCATTCAAT TCCCTACCAG GATTATGATG AAGAGTTGGT TTCAATCATG	13500
AGGGACATTA TCGGCCAAGA AAGTCGAGAA GATTTAGTAG TGTGCCTTCC TGATGCTTTT	13560
ACAGATCGTT TTAGGTTTAC ATCGTGGGCG ATTCCATTTT GGAAAGATCA CATGGATCAT	13620
TATATGGATT TTTACAGAGA GTTATGCAGT GATTCATGGT ATGGCTCAAC CTTTGTATCT	13680
CGCCCTTATA TCGATTTTGA AGACAAGAGT CAAGCTAAAG CTCAATTTGA AAAATTGAAA	13740
AGCATTTGGG AAAACCGTGA CTTACTGATA GTCGAAGGTG CGACTTCTCG TTCAGGTGTC	13800
GGAAATGATT TATTCGATGA GGCAAATTCT ATTAAGCGAA TTATCTGTCC TTCTCATAGT	13860
GCCTTTTCTA GAGTTCATGA ACTTGAACAA GAAATTGAAA AGTATGCTGG TGGTCGCTTG	13920
ATTTTATGTA TGCTTGGACC TACAGCAAAA GTTCTGAGTT ATAATCTATG CCAGATGGGC	13980
TATCAAGTTT TGGATGTAGG CCATATTGAC TCAGAGTATG AATGGATGAA AATGGGAGCT	14040
AAAACCTAAGG TTAAATTTTC TCATAAACAT ACTGCAGAAC ATAATTTCTGA CCAAGATATT	14100
GAATTTATTG ATGATGAAAC CTATAACAGT CAGATTGTTG CACGAATATT AACTAGACT	14160

583

ATTTAAAATA AATGATAAGG ATTTAAAATG AGAAATACCA AACGCGCTGT AGTATTTGCA	14220
GGTGATTACG CTTATATTCG ACAAATCGAA ACGGCGATGA AGTCACTCTG TAGACACAAT	14280
AGTCATTTGA AAATTTATCT GCTAAATCAG GACATTCCTC AGGAATGGTT TAGTCAAATA	14340
AGAATATATT TACAAGAGAT GGGGGGCGAC TTGATTGACT GCAAGTTAA T TGGCTCACAG	14400
TTTCAAATGA ATTGGTCTAA TAAATTACCT CATATCAATC ATATGACATT TGCACGCTAT	14460
TTTATTCAG ATTTTGTAAC AGAAGATAAA GTTCTCTATC TAGATAGTGA TTTGATTGTG	14520
ACTGGTGATT TGACCGATTT GTTTGAATTA GACTTAGGTG AAAATTATTT GGCAGCAGCT	14580
CGTCTCTGCT TTGGAGCAGG AGTCGGCTTC AATGCTGGTG TTCTCTTGAT TAACAACAAA	14640
AAATGGGGAT CTGAAACTAT TCGACAAAAA TTGATTGACT TAACAGAAAA AGAACATGAG	14700
AATGTGGAAG AAGGAGACCA GTCAATTTTG AATATGTTGT TTAAAGATCA ATATAGTTCC	14760
CTTGAAGATC AATATAATTT TCAAATAGGA TATGATTATG GGGCGGCAAC CTTTAAACA T	14820
CAATTCATTT TTGATATTC GTCGAACCA CTGCCACTAA TTTTACACTA TATTTCTCAG	14880
GATAAGCCTT GGAATCAATT TTCTGTTGGA CGTCTAAGAG AAGTTTGGTG GGAATACTCT	14940
TTGATGGATT GGTCTGTTAT TTTAAATGAA TGGTTTTCAA AGAGTGTGAA GTACCCTAGT	15000
AAATCACAAA TATTTAAGTT GCAATGTGTT AATTTAACGA ATTCTTGGTG TGTCGAGAAA	15060
ATCGATTATT TGCGGAGCA ATTGCCAGAA GTTCATTTTC ATATTGTTGC TTATACAAAT	15120
ATGGCAAATG AACTACTAGC TTTAACGCGT TTTCTTAATG TTACCGTATA TCCAAATTC	15180
TTACCAATGT TATTGGAACA AATACTAATA GCTTCAGATT TGTATTGGA TTTGAATCAT	15240
GATCGAAAAT TAGAAGATGC ATATGAGTTT GTGCTTAAGT ACAAAAAACC AATGATAGCT	15300
TTGACAATA CTGCTCTGA AAATCTTTCT GAGATTCAT ATGAAGGTAT CTATCCAAGC	15360
TCCATTCCGA AAAAAATGGT TGCAGCAATC AGATCTTACA TGAGGTAGAG AACAGTATGA	15420
GAAATCAAT AGTATTAGCG GCAGATAATG CCTATCTTAT TCCTTTAGAG ACGACTATAA	15480
AGTCTGTATT GTATCACAAT AGAGATCTTG ATTTTATAT TCTCAACAGT GATATAGCTC	15540
CTGAATGGTT TAAATTATTG GGGAGAAAAA TGGAGTTGT GAATTCTACA ATTCGCAGTG	15600
TACACATTGA TAAAGAACTT TTTGAAAGCT ATAAAACAGG ACCTCATATA AATTATGCTT	15660
CTTACTTTAG ATTTTGTGCG ACAGAAGTGG TTGAATCTGA TAGGGTATTG TATCTGGATT	15720
CCGATATCAT TGTAAGTGG GAACTAGCTA CTTTGTGTTGA GATAGATCTC AAAGGATATT	15780
CAATTGGTGC TGTGATGAT GTCTATGCCT ATGAAGGACG AAAATCTGGA TTAAATCTG	15840
GTATGTACT AATGGATGTT GCAAAGTGA AAGAACATTC TATTGTCAAT AGTTTATTGG	15900

584

AATTAGCGGC CGAGCAGAA	CAAGTTGTTC ATCTTGGGGA	TCAGAGTATT TTAAATATTT	15960
ATTTTGAGGA TAATTGGCTA	GCCTTAGATA AAACATATAA	TTATATGGTG GGTATTGATA	16020
TTTATCACCT TGCTCAAGAA	TGTGAACGTC TAGATGACAA	TCCACCTACA ATTGTTCACT	16080
ATGCTAGTCA TGATAAACCT	TGGAATACAT ATAGTATATC	TAGACTACGT GAATTATGGT	16140
GGGTTTATAG AGATTTGGAT	TGGTCAGAGA TTGCTTTTCA	ACGTTCCGAT TTAAATTATT	16200
TTGAAAGAAG CAATCAGTCT	AAAAACAAG TGATGCTTGT	GACATGGAGT GCAGATATAA	16260
AACATTTAGA GTATTTAGTA	CAACGGTTAC CTGATGGCA	TTTTCATTG GCTGCACCGT	16320
GTGATTGTTC TGAGGAGCTG	ACCTCTCTAT CACAGTATAC	GAATGTAACA GTATATCAAA	16380
ATGTATTACA TAGTAGAATT	GATTGGCTAT TGGACGATTC	TATAGTTTAT TTAGATATTA	16440
ATACAGGTGG AGAGGTTTTT	AATGTAGTTA CAAGGGCACA	AGAAAGTGGC AAGAAAATCT	16500
TCGCTTTTGA TATCACACGT	AAAAGTATGG ATGATGGACT	CTATGACGGT ATTTTCTCTG	16560
TGGAGAGACC AGATGATTTA	GTGGATAGAA TGAAGAAAT	AGAGATAGAG TAATGAGTGA	16620
ATTAATTAGT GTTGTGGTAC	CGATATACAA TACGGGAAAA	TATTTAGTGG AGTGTGTCGA	16680
GCATATTCTG AAGCAAACCT	ATCAAAATAT AGAAATTATT	TTAGTTGATG ACGGTTCTAC	16740
GGATAATTCT GGGGAAATTT	GTGATGCTTT TATGATGCAA	GATAATCGTG TGCAGTATT	16800
GCATCAAGAA AATAAGGGGG	GGGCAGCACA AGCTAAAAAT	ATGGGGATTA GTGTAGCTAA	16860
GGGAGAGTAC ATCAGGATTG	TTGATTGAGA TGATATCGTA	AAAGAAAATA TGATTGAAAC	16920
TCTTTATCAG CAAGTCCAAG	AAAAGGATGC AGATGTTGTT	ATAGGGAATT ACTATAATTA	16980
TGACGAAAGT GACGGGAATT	TTTATTTTGA TGTAACAGGG	CAAGATTTT GCGTCGAAGA	17040
ATTAGCTATA CAAGAAATTA	TGAACCGTCA AGCAGGAGAT	TGGAAATTCA ATAGCTCGGC	17100
CTTTATATTG CCGACATTTA	AGTTGATTAA AAAAGAATTA	TTCAATGAAG TTCACTTTTC	17160
AAATGGTCGC CGCTTTGATG	ATGAAGCAAC TATGCATCGC	TTTTATCTTT TAGCCCTCTAA	17220
AATCGTCTTT ATAAACGATA	ATCTCTATCT GTATAGAAGA	CGTTCAGGAA GCATCATGAG	17280
AACGGAATTT GATCTTTCCT	GGGCAAGAGA TATTGTTGAA	GTGTTTCTA AGAAAATATC	17340
GGATTGTGTC TTGGCTGGTT	TGGATGTCTC CGTCTGCGT	ATTCGATTTG TCAATCTTTT	17400
AAAAGATTAT AAGCAAACCT	TAGAATACCA TCAATTAACA	GATACTGAGG AATATAAAGA	17460
TATTTGTTTC AGATTAAAGT	TGTTTTTTGA TGCAGAACAA	AGAAATGGTA AAAGTTGAAA	17520
TAAAAGAATT GTTATTTACC	ATATCACAAA CAATGAAGGT	GAGGGGAGTG TTTTATGACT	17580
AAGATTTATT CGTCAATAGC	AGTAAAAAAA GGACTATTTA	CCTCATTTCT ACTGTTTATC	17640
TATGTATTGG GAAGTCGTAT	TATTCCTCCCT TTTGTTGACC	TAAATACTAA AGATTTTTTA	17700

585

GGAGGTTCAA CAGCCTATCT AGCCTTCTCA GCCGCCCTAA CAGGTGGGAA TCTAAGAAGT	17760
TTATCAATTT TTTCTGTTGG ATTATCCCCT TGGATGTCCT CCATGATTTT ATGGCAGATG	17820
TTTTCTTTTT CTAAACGGTT GGGTTTAAACA TCTACGTCTA TAGAAATACA AGATCGCCGT	17880
AAAATGTACC TGACCTTGCT AATTGCTGTG ATTCAATCCT TGGCAGTTAG CTTGAGACTG	17940
CCAGTACAAT CCTCCTATTC TGCAATATTG GTTGTCTTAA TGAATACAAT ATTGCTGATA	18000
GCAGGAACAT TTTTCTTGT TTGGTTGTCA GATTTAAATG CGAGTATGGG GATTGGAGGT	18060
TCTATGTAA TCCTCCTATC CAGTATGGTT TTAATATTC CTCAGGATGT TTTGGAAACA	18120
TTTCAGACAG TACACATTCC AACAGGGATT ATTGTGTAC TTGCTTTATT AACCCTTGTC	18180
TTTTCTTATT TACTTGCCCT TATGTATCGA GCTCGCTATT TGGTTCCCTG TAATAAAATT	18240
GGCTTACACA ATCGATTAA ACGCTATTCT TATCTCGAAA TCATGTTGAA TCCTGCAGGT	18300
GGGATGCCCT ATATGTATGT GATGAGTTT CTTAGTGTTAC CAGCTTATTT GTTCATCTTG	18360
TTGGGATTTA TTTTCCTAA TCATTCAGGG TTAGCGGCTT TATCAAAGGA ATTTATGGTT	18420
GGAAAGCCTT TGTTGGTCTA TGTTTATATT TCGGTCTTAT TTTTATTTAG TATCATTTTT	18480
GCTTTTGTTA CGATGAATGG AGAAGAGATT GCAGACCGTA TGAAAAATC TGGAGAATAC	18540
ATTTATGGTA TTTATCCAGG TCGGATACT AGTCGATTTA TTAATCGATT GGTCTTCCT	18600
TTCTCAGTCA TAGGTGGTCT CTTAATGTG ATTATGGCAG GTGGTCCCAT GCTTTTGT	18660
TTGTTTGATG AAAAGTTATT ACGATTGGCA ATGATTCCAG GCTTATTTAT GATCTTCGGG	18720
GGCATGATTT TTACGATTAG AGACGAGGTC AAGGCTTAA GGCTAAATGA GACCTATAGA	18780
CCTTTGATTT AGGAGACTTT TATGTATTAT TTTATTCAG CTTGGTATGG GTCAGAAAGA	18840
ACATGGCATG CAGATATCAC TCCATGGTAT TTTCTCATT TTCGTCTAGA GTTTGATGAT	18900
ACCTTTCACC AGATTTCGGCT CTTCAAGAG CAAGATATAG ATTCTCGTCT ATTAGTATTA	18960
GCTTACCAGC CTCATCTACG TTATTTTTTA TATAGACATG GTGTGTTAGA AATGGATACT	19020
TATTCGTTT TTGATGTTAT GCAAGATTTT CATAATCTCC ATACCCAAGT TTTAAGCAT	19080
AGAGATATTG AGTGGGATGA TGACTGTGAA TTTATTTATA GTCCCTTTAC GATTATCGTT	19140
CAAAAAATG GGAAGAAATT TGCTAACGTT GAACATGGAG TTGAAGGCTT CATCAGTGAT	19200
ATACAGTATT TTGAACCAA TGGTCAAATA CATATGCACC ATATCGTGGA TGATCGTGGG	19260
TTTGTATCGA GCATTATCTT TTTTGAAGAT GGGCAAGCAG CCTATCAAGA ATATCTGAAC	19320
CTCAAGGGAG AGTGGCAATT CAGAGAGCGT TTAAGAAGAG GAGGACAGGT AGAAGTCAAT	19380
CCAATTTTGG GTTATCGCTT TAAAAAGCTT ACCTATCAAA ATATGGGAGA TCTGGTGGCA	19440

586

GAATTTTTTG AGAATTATCT GCAAACGTAT GTGAAGGATC AGGATATTTT TATGCTTCCT	19500
TCTCATTCCTC ATCATGACCA GTTGGTACTA GATCGTTTAC CTAGTACTAA TCCTAAACTG	19560
TTGAGTCTGT TCATTGGACG TAATCCTCAA GATACCTTTA GGGATTTAGA TGTAACTTTT	19620
GAAAAATCGG ATTTGATTTT GGTGGATAGA GAGGATAGTT TACGATTGTT GCAGGAGTTG	19680
TATCCTGAAC GAATGCATCA ATGTTATCAT TTATCATCTT TTGACACCCG ATTACGATTG	19740
GGACGAAGCC AAAC TAAGAA AGAATCCATC ATTTATTTTC AACTGGATTT TGAGCAGGGG	19800
ATTGATAATC AAGCTCTGCT TCAAGTCTTG TCCTTTGTCG CTGAAAATAA GGATACTGAG	19860
GTGATTTTTG GAGCCTTTGC TGCTAGTCAG GAGCAAATGA ATGAGGTTGA AGGGATTGTT	19920
GAGTCTTTCA TCCAAGAAAA CATTCAATCC GAAAATCTGG GAAAGGCGAT TGATTATGGT	19980
GATGCAGAAA ATCCTCTGGA AGAAAATCAA CACCAGGACT TACGCTTACA GTTTGTTAAC	20040
TTGAATGATG AGTTAGATTT GATAAAAACA CTAGAATTG TCCGTTTGAT TGTGGATTTA	20100
AATAGACATC CTCATCTCTA CACACAGATT GCTGGGATTA GTGCAGGAAT TCCTCAAATC	20160
AACCTAGTTG AAACCGCTA TGTGGAACAT TAAAAAATG GTTATTTGTT AGCAGATGTT	20220
ACAGAATTTT CTAAGGCTGC ACATTATTAC ACAGATAGGT TGAAGGAGTG GAATGAGTCC	20280
TTGATATATT CAATTGATAA GATTAAAGGAG CACACAGGAC AACAAITTTCT TGGAAAATTA	20340
GAGAAATGGA TAGAGGAGGT TAAAAATGTC AAAGGAACCT AATATTTTAC AGATAGGACT	20400
TGCCAATTGG GAAAATCACT ATGACATACC TGAAAATATG AGTTGGTATT ATTTTACCC	20460
AAACTCATCA AAAGCCCTTC GTGAAATAAT TGAAAAGAG GATATTAACC GTTTTCATGC	20520
AGTTTAAATA GAAGATGGTC AGTATCCAG AGACTTATTT TCCTATGTAA AATAITTTGA	20580
ACCTTATACT TTATTTTATA ACCAGAATCT ACAAATAAAT GATAGAGAGG TTGTGGATTT	20640
TCTAAAAAAA CGATGTGCAC AAGCAATTGA TTTTAAAGT CCCCAACAAC TAATCAATGA	20700
TTTAAGTAAA TCTCTTTTGG GCGGTGGGTA TGGTGATAAA CTCTTTCCTC CGACGATACA	20760
AGTCAATCCA AATTTTACAG GAGCTATTTT TTATCAAGGA TTGGATTATG TCAGTTTGGA	20820
AGGTGAGTTT GGGCAAGATT TTGCCAGCT TGCCATTGG GCTTATAATA TTATGGTGCA	20880
AAAAACACTC CCTATTGACT TGTGGCTTGA ATATGAGAAG GAAGGCAATT GTGACTTTCG	20940
TTTAGTAATC CGTAAATGT GGAGTGGGTC TGTGATGAT TTCTTTGAAG AAGTAATAGT	21000
ATCTGAAAAA GACTTGGAGC AAGCACTTTT TATGGATAGT CGAGACGGAG ACTACTTTCT	21060
CTCGATATCT GTTGAAGCAA GAGGTCGTGG AACTATCAAA CTAGGTAATC TTCACCAACG	21120
ATGGAGTCGA AAACAATTTG GTAAGTTTGT ACTTGGTGGA AATATCCTAC ATGATTCCAA	21180
GCGTGATGAA ATAAACTATT TCTTCCATCC AGGTGATTTT AAACCGCCTT TGACTGTCTA	21240

587

TTTTCAGGT TATCGACCTG CAGAAGGATT CGAGGGTTAC TTTATGATGA AAACCTCTGG	21300
ATGTCCCTTC ATTTTATTTT CTGATCCACG TTTAGAGGGG CGAGCTTTTT ATCTCGGAAC	21360
GGATGAGCTA GAGGGAAAAG TAAAGGATAC GATCACTCAC TATCTTGATT ATTTAGGCTT	21420
TGATCATAAG GATTTGATTT TATCAGGTCT TTCTATGGGA ACGTTTCCGG CTCTCTATTA	21480
TGGTGCTTCT TTTGAACCCC ATGCCATCAT AGTTGGTAAG CCCTTGGCTA ATTTAGGAAC	21540
TATAGCTAGT CGTGGACGTT TGGACGCACC GGGTGTCTCT AACCTAGCTT TTGATTGTTT	21600
AATTCATCAT ACAGGTGGGA CAAGTTCTCA AGATATGACG GAGTTGGATC AGCGTTTTTG	21660
GAAAATTTTT AAACAAGCAA ATTTTCAAA GACAACCTTT GGTTTATCCT ATATGAAAGA	21720
TGAAGAAATG GATCCACAAG CCTATGAACA ATTAGTGTCT TATCTGTGTA ATACAGGTGC	21780
GAAGATTTTA TCTAAAGGAA CTGCTGGACG ACACAATGAT GATACAGATA CCAATATTTT	21840
TTGGTTTTTG CACTTTTATA GAATGGTCTT AGAGACTGGT TTTGGAAGGG AGAAAAGATG	21900
ATTATTACAC AGAGACAGTC TATTCATTGG GGAGAAGTTG GTGGGACTTA TATGTATGGA	21960
ACAACTGTAT CTTATTACCC TGACAAAAGT GTTCGTCTGT ATAATCCTCT ATTGCCATCT	22020
GGTGAGATTC TAAAGACTTG GTTTTCTAGT GTCAATTACC AGGCTGCACG AACCCAACCT	22080
CAGCTTCCCT TATTA AAAAG AAAGCAGGAG TATCAACTAT CACTGGTTTT TGA CTGTCAG	22140
CCTGAAAATG GAGTTTATAC CAAGATAACT TTTTGTGACC GCTATGGTGA TATTTTAGAA	22200
AAAAAGGTAG AAAAAGTGAA AGATTTTATA TTTACTTATC CAGAAGATAG TTATACTTAT	22260
CGAGTTTCTC TTTTAAGTGC TGGATTGAG TCCTTAACCT TTTATCATTT TTCTATCAAG	22320
GAGATCAGAA GTGTTTAGAC GTTTAGGTCA AGATTTCCAG CTTAGGAAAG TGAAAAAGAT	22380
TTTAAAGCAG ATTAATGCCC TGAAAGGCAA GATGTCCTCT CTTTCGGATC AAGAATTAGT	22440
AGCTAAAACA GTAGAGTTTC GTCAGCGTCT TTCCGAGGGA GAAAGTCTAG ACGATATTTT	22500
GGTTGAAGCT TTTGCTGTGG TGCGTGAAGC AGATAAGCGG ATTTTAGGGA TGTTTCTT	22560
TGATGTTCAA GTCATGGGAG CTATTGTCAT GCACTATGGA AATGTTGCTG AGATGAATAC	22620
GGGGGAAGGT AAGACCTTGA CAGCTACCAT GCCTGTCTAT TTGAACGCTT TTTCAGGAGA	22680
AGGAGTGATG GTTGTGACTC CTAATCAGTA TTTATCAAAG CGTGATGCCG AGGAAATGGG	22740
TCAAGTTTAT CGTTTTCTAG GATTGACCAT TGGTGATCCA TTTACGGAAG ATCCAAAGAA	22800
GGAGATGAAA GCTGAAGAAA AGAAGCTTAT CTATGCTTCG GATATCATCT ACACAACCAA	22860
TAGTAATTTA GGTTTTGATT ATCTAAATGA TAACCTAGCC TCGAATGAAG AAGGTAAGTT	22920
TTTACGACCG TTAACTATG TGATTATTGA TGAAATGAT GATATCTTGC TTGATAGTGC	22980

588

ACAACTCCT CTGATTATTG CGGGTTCTCC TCGTGTTTCAG TCTAATTACT ATGCGATCAT	23040
TGATACACTT GTAACAACCT TGGTCGAAGG AGAGGATTAT ATCTTTAAAG AGGAGAAAGA	23100
GGAGGTTTGG CTCACTACTA AGGGGGCCAA GTCTGCTGAG AATTTCTAG GGATTGATAA	23160
TTTATACAAG GAAGAGCATG CGTCTTTTGC TCGTCATTTG GTTTATGCGA TTCGAGCTCA	23220
TAAGCTCTTT ACTAAAGATA AGGACTATAT CATTCGTGGA AATGAGATGG TACTGGTTGA	23280
TAAGGGAACA GGGCGTCTAA TGGAAATGAC TAAACTTCAA GGAGGTCTCC ATCAGGCTAT	23340
TGAAGCCAAG GAACATGTCA AATTATCTCC TGAGACGCGG GCTATGGCCT CGATCACCTA	23400
TCAGAGTCTT TTTAAGATGT TTAATAAGAT ATCTGGTATG ACAGGGACAG GTAAGGTCGC	23460
GGAAAAGAG TTTATTGAAA CTTACAATAT GTCGTAGTA CGCATTTCAA CCAATCGTCC	23520
GAGACAACGG ATTGACTATC CAGATAATCT ATATATCACT TTACCTGAAA AAGTGTATGC	23580
ATCCTTGAG TACATCAAGC AATACCATGC TAAGGGAAAT CCTTTACTCG TTTTGTAGG	23640
CTCAGTTGAA ATGTCTCAAC TCTATTCTGC TCTCTGTTT CGTGAAGGGA TTGCCATAA	23700
TGTCCTAAAT GCTAATAATG CGGCGCTGA GGCTCAGATT ATCTCCGAGT CAGGTCAGAT	23760
GGGGGCTGTG ACAGTGGCTA CCTCTATGGC AGGACGTGGT ACGGATATCA AGCTTGTAA	23820
AGGAGTCGCA GAGCTTGGGG GCTTGATGT TATTGGGACT GAGCGGATGG AAAGTCAGCG	23880
GATCGACCTA CAAATTCGTG GCCGTTCTGG TCGTCAGGGA GATCCTGGTA TGAGTAAATT	23940
TTTTGTATCC TTAGAGGATG ATGTTATCAA GAAATTTGGT CCATCTTGGG TGCATAAAAA	24000
GTACAAAGAC TATCAGGTTT AAGATATGAC TCAACCGAA GTATTGAAAG GTCGTAAATA	24060
CCGGAAACTA GTCGAAAAG CTCAGCATGC CAGTGATAGT GCTGGACGTT CAGCACGTCTG	24120
TCAGACTCTG GAGTATGCTG AAAGTATGAA TATACAACGG GATATAGTCT ATAAAGAGAG	24180
AAATCGTCTA ATAGATGGTT CTCGTGACTT AGAGGATGTT GTTGTGGATA TCATTGAGAG	24240
ATATACAGAA GAGGTAGCGG CTGATCACTA TGCTAGTCGT GAATTATTGT TTCACTTTAT	24300
TGTGACCAAT ATTAGTTTTC ATGTTAAAGA GGTCCAGAT TATATAGATG TAACTGACAA	24360
AACTGCAGTT CGTAGCTTTA TGAAGCAGGT GATTGATAAA GAACTTTCTG AAAAGAAAGA	24420
ATTACTTAAT CAACATGACT TATATGAACA GTTTTACGA CTTTCACTGC TTAAAGCCAT	24480
TGATGACAAC TGGGTAGAGC AGGTAGACTA TCTACAACAG CTATCCATGG CTATCGGTGG	24540
TCAATCTGCT AGTCAGAAAA ATCCAATCGT AGAGTACTAT CAAGAAGCCT ACGCGGCTT	24600
TGAAGCTATG AAAGAACAGA TTCATGCGGA TATGGTTCGT AATCTCCTGA TGGGGCTGGT	24660
TGAGGCTACT CAAAAAGTG AAATCGTGAC TCATTTTCCA TAAAAGGAGA AAATATGACA	24720
ATTTACAATA TAAATTTAGG AATTGGTTGG GCTAGTAGCG GTGTTGAATA CGCTCAAGCC	24780

589

TATCGTGCTG GTGTTTTTCG GAAATTAAAT CTGTCCTCTA AGTTTATCTT TACAGATATG	24840
ATTTTAGCCG ATAATATTCA GCACTTAACA GCCAATATTG GTTTTGATGA TAATCAGGTT	24900
ATCTGGCTTT ATAATCATTT CACAGATATC AAAATTGCAC CTACTAGCGT GACAGTGGAT	24960
GATGTCCTTG CTTACTTTGG TGGTGAAGAA AGTCACAGAG AAAAAAATGG CAAGGTTTTA	25020
CCTGTATTCT TTTTGGACCA AGATAAGTTT GTAACCTGTT ATTTGGTTGA TGAGAACAAG	25080
GACTTGGTTC AACATGCCGA GTATGTTTTT AAGGGAAACC TGATTCGGAA GGATTACTTT	25140
TCTTATACGC GTTATTGTAG CGAGTATTTT GCTCCCAAG ACAATGTTGC AGTCTTATAC	25200
CAACGAACTT TTTATAATGA AGACGGGACT CCAGTCTATG ATATCTTGAT GAATCAAGGG	25260
AAGGAAGAAG TTTATCATTT CAAGGATAAG ATTTTCTATG GAAAGCAAGC TTTGTGCGT	25320
GCCTTTATGA AATCTTTGAA TTTGAATAAG TCTGATTGG TCATTCTCGA TAGGGAGACA	25380
GGTATTGGAC AGGTTGTGTT TGAGGAAGCA CAGACAGCAC ATCTAGCGGT AGTTGTTTAT	25440
GCGGAGCATT ATAGTGAAAA TGCTACAAAT GAGGACTATA TCCTTTGGAA TAACTATTAT	25500
GACTATCAGT TTACCAATGC AGATAAGGT GACTTCTTTA TCGTGTCTAC TGATAGACAA	25560
AATGAAGTTC TACAAGAGCA ATTTGCCAAA TATACTCAGC ATCAGCCAAA GATTGTTACC	25620
ATTCCTGTAG GCAGTATTGA TTCCTTGACA GATTCAAGTC AAGGGCGCAA ACCATTTTCA	25680
TTGATTACGG CTTCACGTCT TGCCAAAGAA AAGCACATTG ATTGGCTTGT GAAAGCTGTG	25740
ATTGAAGCTC ATAAGGAGTT ACCGGAATA ACCTTTGATA TCTATGTTAG TGGTGGAGAA	25800
GATTCTCTGC TTAGAGAAAT TATTGCAAAT CATCAGGCAG AGGACTATAT CCAACTCAAG	25860
GGGCATGCGG AACTTTCGCA GATTTATAGC CAGTATGAGG TCTACTTAAC GGCTTCTACC	25920
AGCGAAGGAT TTGGTCTGAC CTTGATGGAA GCTATTGGTT CAGGTCTACC TCTAATTGGT	25980
TTTGATGTGC CTTATGGTAA TCAGACCTTT ATAGAGGATG GGCAAAATGG TTATTTGATT	26040
CCAAGTTCAT CTGACCATGT AGAAGACCAA ATCAAGCAAG CTTATGCCGC TAAGATTTGT	26100
CAATTGTATC AAGAAAATCG TTTGGAAGCT ATGCGTGCCT ATTCTTACCA AATTGCAGAA	26160
GGCTTCTTGA CCAAAGAAAT TTTAGAAAAG TGGGAAGAAA CAGTAGAGGA GGTGCTCCAT	26220
GATTGAACTT TATGATAGTT ACAGTCAAGA AAGTCGAGAT TTACATGAAA GTCTAGGCGC	26280
TACTGGTCTT TCTCAACTTG GAGTGGTCAT CGATGCAGAT GGTTTCTGCT CTGATGGTCT	26340
GCTTCTCCT TTTACCTATT ATCTAGGTTA CGAGGATGGA AAACCTCTCT ATTTTAATCA	26400
AGTTCCCGTT TCAGATTTTT GGGAAATTTT AGGAGATAAT CAGTCTGCTT GTATTGAAGA	26460
TGTGACGCAG GAGAGGCTG TCATTCATTA TGCTGATGGA ATGCAGGCTC GCTTGGTTAA	26520

590

ACAGGTAGAC TGGAAAGACC TAGAAGGTCG AGTACGTCAG GTTGACCACT ACAATCGCTT	26580
CGGAGCTTGT TTTGCTACAA CGACTTATAG CGCAGATAGC GAGCCGATTA TGACAGTTTA	26640
CCAAGATGTC AATGGTCAAC AAGTTTACT GGAAAACCAT GTGACGGGTG ATATCTTATT	26700
GACTTTGCCA GGTCACTCCA TGCCTTACTT TGCAAATAAA GTTGAATTTA TCACCTTCTT	26760
TTTGCAAGAT TTGGAATAG ATACCAGTCA GCTTATCTTT AATACTCTAG CGACTCCTTT	26820
CTTGCTTTCC TTCCATCATC CAGATAAATC TGGCTCGGAT GTCTTGGTAT GGCAGGAACC	26880
TCTCTATGAT GCCATTCCAG GTAATATGCA GTTGATTTTG GAAAGTGATA ATGTGCGTAC	26940
TAAGAAGATC ATCATTCCAA ATAAGGCGAC TTATGAGCGC GCTTTAGAGT TAACTGACGA	27000
GAAATACCAT GATCAGTTTG TGCCTTGGG TTATCATTTAC CAGTTCAAAC GTGATAATTT	27060
CCTAAGACGA GATGCCTTAA TCTTGACCAA TTCAGATCAG ATTGACGAAG TAGAAGCAAT	27120
CGCAGGAGCC TTGCCTGATG TCACCTTCCG TATTGCAGCG GTGACAGAGA TGTCTTCTAA	27180
GCTCTTAGAC ATGCTTTGCT ATCCTAATGT GGCCCTTTAC CAGAACGCTA GTCCACAGAA	27240
GATTACAGGAG CTGTATCAAC TGTCGGATAT TTAAGTGGAT ATAAACCACA GTAATGAGTT	27300
GCTACAGGCA GTGCGTCAGG CCTTTGAGCA CAATCTCTTG ATTCTTGGCT TTAATCAGAC	27360
GGTGACAAAT AGACTTTATA TCGCTCCAGA CCATCTATTT GAAAGTAGTG AAGTTGCTGC	27420
TTTGGTTGAG ACCATTAAAT TGGCCCTTTC AGATGTTGAT CAAATGCGTC AGGCACTTGG	27480
CAACAAGGC CAACATGCAA ATTATGTTGA CTTGGTGAGA TATCAGGAAA CCATGCAAAAC	27540
TGTTTATAGGA GGCTAACATG TCAGAGGAAG ATTTATTTTA CAAAGACGTT GAAGGCCGCA	27600
TGGAAGAGTT GAAACAAAAA CCCATCAAGA AGGAAAAAGA AACCCGAGGG GAAAAGATTA	27660
GTAAGACTTT TTCACCTTTA CTGGGTTTGA TGATTCTGAT TGGTTTGCTC TTTACTTTGC	27720
TGGGAATTTT GAGGTAGATC TATGATTGAA ATACTAATTG TTTTAGCTAT TATCCTATCT	27780
CTTGCTTTGA TTGTATTGGT AACTATACAA CCCCGTCAA ATCAACTATT TTCCATGGAT	27840
GCCACTAGTA ATATTGGTAA ACCAAGCTAC TGGCAGAGCA ACACCTTGGT CAAGGTGCTC	27900
ACTTTATTGG TGAGTTTGGC TTTATTTATT CTACTATTAA CCTTTATGGT GATTACTTAT	27960
AAATAAAAGA AAACCTCAGA TATTCACCTT TTGTGGATTG GTCTGAAGTT TTCTTTTTTA	28020
TACTCAATGA AAATCAAAGA GCAAACCTAGG AAGCTAGCCG CAGGCTGCTC AAAACACCGT	28080
TTTGAGGTG TAGATATAAC TGACGAAGTC AGCTCAAAAC ACCGTTTGA GGTGTAGAT	28140
ATAACTGACC AAGTCAGCTC AAAACACCGT TTTGAGGTG TGGATAGAAC TGACGAAGTC	28200
AGCTCAAAAC ACCGTTTGA GGTGTGGAT AGAACTGACG AAGTCAGCTC AAAACACCGT	28260
TTTGAGGTG TGGATAGAAC TGACGAAGTC AGCTCAAAAC ACCGTTTGA GGTGTGGAT	28320

591

AGAACTGACG	AAGctCAGTA	ACATATATAC	AGCAAGGCCGA	CGCTGACGTG	GTTTGAAGAG	28380
TATTACTGTC	TATATTTTGT	GTAAAAATCA	ACTTTTACTT	GGATGAAGGT	TTTGGCTTCA	28440
CGTAGGAGTT	GAAGAAGGGT	GGCGCGGGTT	TCAAATTCTT	CTCTTGTCCT	GGCAGACTG	28500
CGGTTCGGGA	AGACTTCCAG	ATAACGTTCA	ATTTCATCTA	GCAAATCAGA	AGCAGGATTG	28560
GTCTGGCTCA	GTGACCTGC	AATTTTGTAA	AAGAGTTGCG	CTAAGATCAG	GCTTTCAGTG	28620
GCGCAAGGT	GACAAGTGT	AATCTGTGTT	GCCATGTTTC	TCAGGATACG	ACTTTGTCCG	28680
TGTCATCTCT	CAAAGTAGTG	GATATGGTAG	TCTGTCTGGT	GAAAGAGGTG	GTGAGAGTGA	28740
TCCAAATAGA	CCAGTCTGAG	GGCTTCTTTC	AAAAGCGTGT	CTAATTCTGC	TACCAGCTGT	28800
GCTCGGTTGC	GTCCGTCTCC	TCTGGATAAA	TAGTATTTGA	AGCGCTGGAG	GATATCTTTT	28860
AACTTTTCTT	CCACCAGCGT	GTGGTACTGC	TGGATTTTCT	CTTCTCGTGA	AGGCATATAG	28920
AGATTAAACAA	GCAAGGCAAA	TCCTGTACCA	ATAGCAAAGA	GAAGGAATTC	ATTGACTAGA	28980
AGGTCTGGAG	AGGTTGACTC	TTGAACCAAG	AGATGGCTAA	CCAAAACAGT	GCTTGGTGTG	29040
ATGCCAATTT	CCCAGCCCAT	CTGTAGGCT	AAAGGAACGT	AGAAGGCCAG	ATAGAGGCCG	29100
AGACTCCAGA	TATGAAATCC	GCTCAAGTGA	AAAGCTAGAA	CACCGATAGC	CAGAGCTAGA	29160
AGCATAGAAA	AAAGACGATT	GCGAGCCACT	TTTAAAGTAC	TTCTACGCGT	ATCAGATAGG	29220
CTCAAGAGAG	CGATAATTCC	AGCCGAAACT	GCTGACGAAA	GATTGAGAAA	ATAAGCAAGC	29280
AGGCAGGCAA	GACAGGTAGC	TAAGATGAGC	TTGGTCGTAC	GTGGGCTAAT	AGACATAAGA	29340
ATTTCTTAAT	AAGTTAGAAT	AAAAGCGTAA	AAGACAAGAC	ATGAGCAGGC	TTGCCTTGAT	29400
GAGTTATTTT	TTACGGGTTG	CTGCGTATTC	GGCAACGGCG	GTAAAGAGGA	CATCTGTAGA	29460
AGAGTTAAGG	GCTGTTTCAC	ATGAGTCTTG	GATGACACCA	ATCACAAAAC	CAACCCCAAC	29520
AATTTGTATG	GCAATATCGT	TAGAAATACC	GAAAAGGCTA	CAAGCAACTG	GGATAAGAAG	29580
GAGGGAACCT	CCGGCAATAC	CTGAAGCATC	ACAGGATGAG	ATAGCTGCTA	CCACACTGAG	29640
GACAAAGGCT	GTGGCAAAGT	CAACAGGAAT	TCCAAGAGTG	TTAACTGCAG	CAAGGGTCAA	29700
AAGGTTAATG	GTAATCGCTA	CTCCAGCCAT	ATTGATAGTA	GAACCGAGTG	GGATAGAAAC	29760
AGAATAGGTA	TCTGGGTTGA	GTCCAAGGTC	ATGGCAGAGT	TTCATGTTGA	CAGGAATGTT	29820
AGTCGCAGAA	CTACGAGTGA	AAAAGGCTGT	CACACCGCTG	ACACGGAGGC	AGTTCCAAAC	29880
TAGAGGGTAA	GGATTGCGTC	TCATAAAGAA	GAAGGCAATC	AAAGGGTTGA	CCACAGGGGC	29940
AACAAAAAGC	ATAGTCGTTA	CTAATAGAAC	CAATAAAATA	CCGTAGTTGG	CAAGGCTTCC	30000
GACTCCCTTG	TCAGAAATGG	TTTAAAAAAC	AAGACCAAGG	ATTCCAAATG	GAGCCAGATT	30060

592

GATGATCCAT TCGACAATTT TAGAAGTCAC GTCAGCGATA GTTTT TAGCA ATTCTTGACT	30120
ATTTT TACTG GCTTCTCTCA TAGCGATTC AAAAATGACT GCCCAAGATA AGATTCTAAT	30180
ATAGTTAGCA GTAAGCAGGG CGTTGACTGG GTTGTC AACC AGTTTGAGCA AGAGGTTGCT	30240
GAGAACCTGC CCAATCCCAT CTGGTGGTGC AATTT CAGTA TTGGCACTAT TTGGGGTAAT	30300
TTCAATAGGG ACGATGAAAT TTGCTAGTAC AGCTACAAGA GCAGCGGCGA AACTCCCTAT	30360
CATAGGATAT ACAAGAAAAC AACAGTTTTC ATATTGCTAT CTTGTCCCTT TTGATGTTGG	30420
GAAAGGGCAT TGGCAACGAG AGCAAAGACT AGGATAGGAG CAACAGCTTT TAGACCTCCA	30480
ACGAATAAAT CCTCGAGTAG CCAATCCCT GAGAGATTAG GAAGGGTCAG TCCTAGGATT	30540
CCCCACAAAG CATACCAATC AAGATACGCT TGACAAGGCT TGCCTTATTC CAAGCATGAA	30600
TGATTCTTTT CATAATAATC TCCTTTTGT GTAGTGATTA TGATTATAGT ATAAATGATA	30660
GACAAAATCA AGAATTTTCT GTCTATTTT TGAATATTTA TGGAGAATGA GACTGATGAA	30720
AATATGGTAT AATGAAATAA AGGAGTTTTA TATGCAAAAA TTTATTCAGG CTTATATTGA	30780
AAAGCTAGAT GTGACAACCA TTATCGAGAA TATTTCTAACC AAGGTCATTT CTCTTTTACT	30840
GCTTTTAATT GTATTTTATA TTGCTAAAAA AATGCTTCAT ACCATGGTGC AGAGAATTGT	30900
CAACCTTCT CTA AAAATGT CTCGTATGA TGTGGACGC CAAAAACCA TCTCACGTTT	30960
ACTAGAAAAT GTGTTTAATT ATACGCTATA TTTCTTTTTA CTCTACTGCA TTTTGTCGAT	31020
TTTAGGTTTG CCAAGTTCTA GTTTGCTGGC TGGAGCTGGT ATTGCTGGGG TAGCGATTGG	31080
TATGGGAGCC CAAGGCTTTC TGTCTGATGT CATCAATGGC TTTTTCATCC TCTTTGAACG	31140
TCAACTGGAT GTGGGAGATG AGGTCGTTCT GACAAATGGA CCGATTACTG TATCGGGTAA	31200
GGTTGTCAGT GTGGGAATTC GTACGACACA GCTTCGTAGC GAGGAGCAAG CCCTTCACTT	31260
TGTCCCTAAC CGAAATATCA CAGTTGTTAG CAATTTCTCA CGCACAGACT AGACCTGTTA	31320
TTTAAAGTAA TTTGTGGTAC AATAGAGGGA GTTTAATAAG GAGAAAAGAT GGTTT TAGAA	31380
AAGCAGTTGG GCAATGGTTG TACCTGGATA GACCTAGACC TAGGAAAGTT GAATAAACTA	31440
GAAGACCTTT CTGAAATTTA CGGTTTGGAC AAGGAAACCA TTGAATACGC ACTGGATAGA	31500
AACGAGCGCG CCCACATGGA CTACCACCGT GAAAGTGAGA CGGTTACCTT TATCTATAAT	31560
GTCTTAGACG TAAAAAGGA CAAGGCCTAC TATGAGACTT TTCCCATGAC CTTTATTGTC	31620
GAGCATCGTC GCCTGATTAC CATTAGTAAT ACCAAGAACG CCTATGTCAT TGAACAGATG	31680
ACTCGTTATC TGGAGAACCA TGACACGCTT TCGATTTATA AGTTTCTCTT TGCCAGTCTG	31740
GAAATCATCA GCAATGCCTA CTATCCTGTC ATTGAGCAGA TGGACAAGAG TAGGGATGAG	31800
GTCAATGACC TCTTGCGCCA GCGAACTACC AAGAAAAACC TCTTTGTCCT GTCTGATTG	31860

593

GAGACTGGTA TGGTTTATCT GACGGCAGCT GCCAAACAAA ATCGGATTTT GTTAGAGCAT	31920
ATTCAAGGTC ATGCCCTGTA TCGTAGTTTT GATGAGATTG AGAGAGAACA GTTTGATGAT	31980
GCCATGATTG AGGCTCATCA GCTGGTATCC ATGACAGACC TAATCTCTCA GATTTTACAG	32040
CAGCTTTCAG CCTCTTACAA CAATATTCTA AACAATAATC TGAATGACAA TTTGACAACC	32100
TTGACTATCA TTTTCACTCTT GCTAGCTGTT TTGGCAGTCG TGACAGGCTT TTTCGGAATG	32160
AATGTTCCCT TACCTTTAAC AGATGAGCCC CATGCTTGGC TCTATATCAG TTTGGCTAGT	32220
GCAGGTTTGT GGATTGTTTT ATCCTTGTTA CTAAGGAAAA TTGCGAAAAA AAGTTAAGAA	32280
AAGGAGCCAG AATGGCGATT GAAAAATTATA TACCAGATTT TGCTGTGGAA GCAGTCTATG	32340
ATCTGACAGT CCCAAGCCTG CAGGCGCAGG GAATAAAGGC TGTTTTGGTC GATTTCGATA	32400
ATACCCCTCAT TGCTTGGAAC AACCCCTGATG GAACGCCAGA GATGAAGCAA TGGCTACATG	32460
ACCTTCGGGA CGCGGGTATT GGCATTATCG TAGTGTCAAA TAACACCAAA AAACGCGTTC	32520
AACGAGCAGT TGAGAAATTT GGGATTGATT ACGTTTACTG GGCCTTGAAG CCCTTCACAT	32580
TTGGTATTGA CCGTGCTATG AAGGAATTCC ACTATGACAA AAAGGAAGTG GTCATGGTTG	32640
GTGACCAACT CATGACAGAT ATACGAGCAG CCCACCGTGC AGGGATTCCG TCAATTTTAG	32700
TCAAACCCCTT GGTCCAACAT GACTCAATCA AAACGCAGAT TAACCGAACT CGTGAGCGTC	32760
GTGTTATG	32768

(2) INFORMATION FOR SEQ ID NO: 72:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 14872 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: double
 - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 72:

CCAGTCACAA AGAAATTGAG CGCGTTCAGc TGAGGATGCA CTATGATGCA AGCTACATTT	60
CATTTGATGG GATATTAAGA AAGGAGATTT TCATGACACT TTTAGATGTA AAACACGTTT	120
AAAAAATTTA TAAACACGT TTTCAGGGCA ACCAAGTAGA AGCCCTCAAG GATATTCAT	180
TTACCGTAGA AAAGGGTGAC TACGTTGCCA TCATGGGTGA GTCTGGTTCT GGTAAATCAA	240
CTCTTCTCAA TATTCTAGCT ATGTTGGATA AACCAAGTCG TGGTCAGGTT TACTTGAATG	300
GAAGTGACAC CGCAACTATT AAAAATTCAC AGGCTTCTAG TTTCGGCGGT GAAAAGCTAG	360
GATTTGTCTT CCAAGACTTT AACTTGCTAG ATACTCTGTC TGTTAAGGAC AATATCTTGC	420

594

TTCCGCTTGT CTTGTCAAGA AGACCTATAA CGGAGATGAT GAAGAAATTG GTGGTGACAG	480
CTGAGAATCT GGGTATTAAC CAATTGCAAG AGAAGTACCC TTACGAGATT TCTGGTGGTC	540
AGAAACAGCG TGTAGCAGTA GCGCGCGCCA TCATCACAGA ACCTGAAATT CTCCTTGCGG	600
ACGAGCCAAC AGGAGCCCTT GATTCCAAGT CATCTGCAGC CTTACTTGAT GTCTTTAATG	660
AAATCAATGA GCGTGGGCAA ACCATCCTCA TGGTAACCCA CTCAACAGCA GCTGCTAGCA	720
GGGCCAAGCG TGTTCTCTTT ATCAAAGACG GCATTCTTTA CAACCAAATC TACCGTGGAG	780
AGAAGACAGA GCGTCAGATG TTCCAAGAAA TCTCTGATAC CTTGACTGTC ATGGCAAGCG	840
AGGTGAATTA GTATGTTTCG ATTAACCAAT AAGTTAGCGG TATCGAACTT GATTAATAAAC	900
CGCAAACCTCT ACTATCCCTT TGCACCTGGCT GTTCTCTTGG CAGTCACCAT CACCTATCTC	960
TTTTACTCCC TAACCTTCAA TCCAAAGATT GCGGAAATCC GTGGAGGAAC CACCATTCAA	1020
GCAACACTTG GATTTGGTAT GTTGTGCGT ACCCTTGCGT CACCATTATC GTCCTCTATG	1080
CCAATAGTTT TGTATGAAA AACCGTTCCA AGGAACTGGG TATATATGGC ATGTTAGGCT	1140
TGGAGAAGCG CCATCTAATC AGTATGACCT TTAAGGAGTT AGTGGTATTT GGGATTCTAA	1200
CTGTGAGAGC GGGTATCGGT ATTGGAGCCT TGTGTGACAA GTTAATTTTC GCTTTCCTGC	1260
TCAAACATAA GAAACTGAAG GTTGAGCTGG TTGCTACCTT CCAAATGAAT GTTGTCAATG	1320
CAGTACTTGT TGTCTTTGGA TTGATTTTCC TAGGCCTCAT GTTCTTGAAT GCTCTTCGAA	1380
TCGCCCCGAT GAATGCCCTC CAGCTCTCGC GTGAGAAAGC AAGCGGAGAG AAAAGAGGTC	1440
GCTTCTTACC TCTCCAAACG ATTCTTGCTT CCATAAGTTT AGGGATTGGC TATTATCTTG	1500
CCCTTACGGT AACCGATCCT CTTACAGCCC TAACAACCTT CTTCTTAGCT GTTTTGCTGG	1560
TTATCTTTGG TACTTATCTA TTGTTTAATG CAGGGATTAC AGTCTTCCTA CAAATCTTAA	1620
AGAAAAACAA GAAATACTAT TACCAACCTA ATAACCTCAT ATCTGTTTCC AACTTGATTT	1680
TCCGTATGAA GAAAAATGCG GTTGGACTAG CAACCATCGC TATTTTGTCA ACAATGGTTT	1740
TGGTAACCAT GTCAGCAGCG ACAAGCATTT TCAATTCCGC AGAAAGCTTT AAAAAAGTTC	1800
TAAATCCTCA TGATTTTGGG GTTTCAGGCG AAAATGTTGA AAAAGAAGAT TTGGACAAAC	1860
TCTTGAGCCA GTTTGCAAGT GACAAAGGTT ATAGTGTCAG AGAGAAAGAA GTACTTCGTT	1920
ACAGTAACTT TGGTATTGCA AATCAAGAAG GAACCAAGTT AACTATTTT GAAAAAGGAC	1980
AAAACCGTGT CCAACCCACA ACAGTTTTC TGGTATTGTA CCAAAAAGAT TATGAAAATA	2040
TGACTGGTCA AAAACTGTCT CTATCAGGAA ATGAGGTCGG TCTCTTTGCC AAAAAAGACG	2100
GACTGAAAGG ACAGAAAGCT CTAACCTTAA ATGATCATCA ATTTTCTGTC AAAGAAGAAT	2160
TTAATAAAGA TTTCATTGTG AACCATGTT CAAATAAGTT TAATATCTTG ACTACTGATT	2220

595

ACAATTACCT TGTGTTCCT GATTTACAAG CCTTTTGGGA TCAATTCCCA GATTCGGCTA	2280
TCTATAATCA GTTTTACGGT GGTATGAATG TAAATGTCAG TGAAGAAGAA CAACTCAAGG	2340
TCGCTGAGGA GTATGAAAAC TACCTCAATC AATTTAATGC TCAATTAGAC ACAGAAGGTA	2400
GCTATGTTTA TGGTAGCAAT CTAGCAGATG CTAGTTCTCA GATGAGTGCC CTCTTTGGTG	2460
GTGTCTTCTT TATCGGTATT TTCCTATCCA TTATCTTTAT GGTCCGAACT GTTCTGGTCA	2520
TCTACTACAA ACAAATTTCT GAAGGCTACG AAGACCGTGA ACGCTTTAT TATCTGCAGA	2580
AAGTCGGTTT GGACCAAAAG CAAATCAAGC AAACCATCAA CAAACAGGTT TTAAGTGT	2640
TCTTCTTCC TTGCTCTTT GCCTTCATAC ATCTCGCCTT TGCCTACCAT ATGCTTAGCC	2700
TGATTTTAAA AGTGATTGGT GTACTGGATA CGACTATGAT GTTGATTGTG ACCTTGTCTA	2760
TCTGCGCTAT CTTCCTCATC GCCTATGTGC TGATTTTCAT GATTACTTCA AGAAGTTATC	2820
GCAAGATTGT GCAAAATGTAA AAAAGATACC TCGACTTCAA AATCGAGGTA TTTCTTGAT	2880
TCTAAATGCT GAAAAGTTGT CCGAGCAGGA AGGTAACTCC CATGGTCAAG AGACCAATAG	2940
CAAGGTCCG AATCATAGCT GTTTTGGTTG GGGCTTTTCC AAGTCTAGCA CTTGTGTAAC	3000
CAGTGAGAAG AAGGGCCACA CCGACAATAA GGACGGTAGC AGGGATGCGG TAATCACTTG	3060
GAAAAATGGT CACTGACAGC ATTGGAGGCA AACTTCTAAG GAAAAAGGCA ACGAAGCTAG	3120
AAATGGCAGC GTGCCAAGGA TTGGTAAATT CTTCACTATC AATCCCATAT TTTTCTCTA	3180
CCAGAGCCTT GAGTGGATT TTAAGAAAGA TCTTATTGGT CAAGAGTTGG GCAGAAGTTT	3240
TGAATCTCTC ATTTTGGATA TAAGCAGCAT AGAGGGATT TTTGGCTAGT TCCCTATCTT	3300
GGTCTAGCAA GAGTTTTCCT CGCGAAACGG CAGCTTCCTC GGTATCTTTT GGAGTTGAAA	3360
CGGATACATA TTCTCCACCA GCCATTGAAA AGGCACCAGC TAAGATAGCC GTAAAACCTG	3420
ATAAAAAGAT AATCCAGATA TTGGTCGTGG CACTGGCAAC TCCGATAACC ACACCAGCAA	3480
TGGAAATAAT TCCATCGTTA GCATCAAGAA CACCCGCACG CAGGATATTT AAACGACCTG	3540
CAAAATTTGA ATCAATTTCTG TGATTGTGTT CTGACGCTAA ATTTCAAGTT CAAGTTAGCC	3600
ATCAAGAAGT CTCTCTGGG TGACTTGTAG TCCAAGCATT TTTTAGGATA GTTGTTAATC	3660
CACTTTTCCA TGAATGCGAC TTCTTTGGGA GTCATTTCT TGGTTCCTT AGGTAACCAT	3720
CTACGAATGA GCCTGTTGTG ATTCTCATTA GTTCCCCTT CCCAAGAGGC ATAGGGATGT	3780
GCATAATAAA TGTGCTCCTC AGAAAATACA TTAGACAAGC GATTGAATTC CGTTCCATTA	3840
TCTGCCGTGA TGGAAAGAAT CTTGTGTGTG TTTAAGATGA GTTTTAGAGC CTGATTGACC	3900
ACATCAGCAC TTTTATTTGG AATCAATCGG ATGATCTGAT GTCTACTTTT TCGATCCGTC	3960

596

AAGACAAGCA AGCAGTAGTT TTTCGCTCTC GTAAGTAGAA CTGTATCAAT CTCATAATGC	4020
CCATTCTCCA AGCGAAAATT GATAGCTTCA AGCCGCTGTT CGATGGATTG ACCAGCAGGT	4080
TTAAAGTTGG TGCTGGCCTG TTTCCTAAGC GCTTTTCCTT TTCTAGGGTA AAGCAGATCC	4140
TGTTTGCTTA ACCCCAATTT TCCATGATGA ATCCAATAGT AAATGGTTGA AATTCCCACG	4200
TTAACCCCTT TAGCCATCAC CATCATTTCA GGCGAAAATT TTTGGTTATG ATAGTGGAGA	4260
ATCTTTTCCT TTAGTTCCTT GGTCAAGCTT GATTTCCTGA CCGAGCGCTT GCGAATGTTT	4320
TCATAAGACT GTTGAGCATA GTCGGCAGAA TAAACCTCTT TGAAGCGCCC TTTTCCAAGA	4380
CATTGTCGGA CTGTCCCACG CTTGATTTCA GTGTGGATAG TTTGAGGAAC TTTTCCAAGC	4440
AGAGAGGCAA TTTCTCTATT TGATTTCCTT TCTTTTTCCT ATCTTTTCGAT TAAGCGACGG	4500
CTATCGATTG TCAAATGTTT GCCTTTTGTA GTATAATGGT TTTGCATCTC TGTGCCTTTC	4560
TTGTGTTTGT GGTGAACAA CAAGTATAAC ACAGAGGTGT TTTCTTATGC CTACAAGAGC	4620
TATCGGCTAG TTGAACCATC TAATTTTGTAG GAGGGCTGGG TGGCTAACTT CATATAGAA	4680
CTTTCATTTA CGAACATATA GTAAAATGAA ACAAGAACAG AACAAATCGA TCAGGACAGT	4740
AAAATCTATT TCTAACAATG TTTTAGAAGC AGAGGTGTAC TATTCTAGTT TCAATCTATT	4800
ATATTTTGTG TTTTATCAA AAAATACTTT ACAAGTCTT AAAAACATGA TATAGTAATA	4860
AAGCTTAGAA AATGAGATGA TGTTTTCTAG CAAATATAAA CCCGAGTAAA AAATGCCTAC	4920
GGACAGGCAG GGTGAATGC CGAAGCGTGG TTGAAAAGCC ACATTATTGA TAGGGTTAAA	4980
AGCCTACTTT TATAAGTTGA TGTTAGGACA CTGTCTCTAA TTCATAAATT TTTAGTGTGG	5040
TGAAAGCACA CGTCATCTTG TGAAACGATC AATAAAGTAC GTAATATTG CTACTAGAGA	5100
GTTAGGAAAC ATCGGGAACA GACATACTCA ACAGAAACCA AAATAAACAC GTCAGAAGAT	5160
TGCAGAGCAG GTGAAAACCT GCTCTTTTTT CATGAGTCAA CCTTTAGTTC CTTAGTTTTT	5220
ATAAGGTCCT AAAAATATTG AAAGGAGTAT GTTTTGAAAG AGTTAGATCA AAACCAAGCC	5280
CCAATTTATG AGGCCTTGGT GAAGTTACGC AAGAAAAGGA TTGTTCCTT TGATGTTCCA	5340
GGTCACAAGC GTGGACGGGG AAATCCAGAA CTTGTGGAAC TCTTAGGAGA AAAATGTGTA	5400
GGCATTTGATG TCAATTCGAT GAAACCTTTG GATAATTTAG GCCATCCTAT TTCGATTATT	5460
CGTGATGCAG AGGAGCTGGC TGCAGATGCT TTTGGAGCTA GCCATGCCTT TCTAATGATT	5520
GGTGGACAA CTTTCATCGGT GCAGACTATG ATTCTGGCAA CCTGCAAGGC AGGAGATAAG	5580
ATTATTTCTG CACGAAATGT CCATAAATCT GCTATCAATG CGTTGGTTCT ATGTGGTGCC	5640
ATTCCCATCT ATATCGAGAT GAGTGTAGAT CCTAAGATTG GTATCGCTTT AGGTCTTGAA	5700
AATGACCGAG TAGCACAGGC CATAAAGGAC CATCCAGATG CTAAGCTAT CCTAATCAAC	5760

597

AATCCTACTT	ACTACGGCAT	CTGTTTCAGAC	CTAAAGGGGT	TGACAGAAAT	GGCTCATGAA	5820
GCTGGCATGA	TGGTTTLAGT	AGATGAAGCC	CACGGAGCGC	ATTTGCATTT	CACTGATAAA	5880
CTTCCAATTT	CTGCTATGGA	TGCAGGGGCT	GATATGGCAG	CAGTTTCCAT	GCATAAGTCT	5940
GGTGGGAGTT	TGACCCAAAG	CTCCATTTTA	CTTATCGGGG	AGCAGATGAA	TTCTGAATAC	6000
GTTTCGTAGA	TAATTAACCT	GACCCAGTCT	ACATCTGCCT	CTTACTTGTT	GATGGCTAGT	6060
TTGGATATTT	CACGTCGCAA	CTTGGCCCTT	CGTGGTAAAG	AGTCGTTTGA	GAAAGTCATT	6120
GAGCTATCTG	AGTATGCCCC	CCGTGAAATC	AATGCTATCG	GTGGCTACTA	TGCCTACTCA	6180
AAAGAGTTAA	TAGACGGTGT	TTCGGTTTGC	GATTTTGACG	TAAGTAAGCT	GTCAGTTTAC	6240
ACTCAGGGTA	TTGGCTTAAC	AGGTATCGAG	GTTTATGACC	TCTTCCGAGA	CGAATACGAC	6300
ATTTCAGATCG	AGTTTGGTGA	TATCGGCAAT	ATCTTGGCCT	ATATTTCCAT	CGGCGACCGC	6360
ATCCAAGACA	TCGAGCGCTT	GGTTGGTGCT	CTGGCTGATA	TTAAGAGACT	CTATTCAAGA	6420
GATGGAAAAG	ATTTGATAGC	AGGAGAATAT	ATTCAGCCCG	AGTTAGTGCT	GTCTCCGCAA	6480
GAAGCCTTCT	ATTCAGAAAAG	AAAAAGTTTA	ACTTTGGATG	ATTCTGTTGG	ACAGGTCCTGT	6540
GGAGAATTTG	TTATGTGTTA	CCCTCCAGGT	ATTCCTATCT	TGGCTCCTGG	TGAACGCATT	6600
ACACGAGAAA	TTGTGCGACTA	TATCCAATTC	GCCAAGGAAC	GTGGTTGCTC	CCTCCAAGGG	6660
ACGGAAGATC	CAGAGGTCAA	TCATATCAAC	GTATTTAAGA	GAAAGACAAA	CTATAAGAAA	6720
AGTCAATAGT	TTTATCTAAA	CTATTTCTTA	TTTCAATTTC	ATGATTTGGC	GATGATTTTA	6780
GAGCACGGCA	AAAAGCCCTT	GAATTAGAAG	CGGTCAATCG	CTTAATTTCT	ATCAGCTTAT	6840
CAAATCCTGC	CTCAAGCCTT	TTCTGAGGAT	TAGGGTAGCG	TGTCAAGAGT	TGGTAGGTAT	6900
ATTCTGAATG	CTTTCCAACG	ATTTTATCCA	ACTCAGGAAA	GATGATATCA	AGACAACGAG	6960
TGTATTGTAC	TTTCCAATCA	GACTGTTTTT	TCTTGAGACG	ATGAATATGT	CTAGCCAGTA	7020
TTTTTAGTTC	TACTTGCCGA	TTATCGTGTT	GAAATTGTTT	ACGATTGGGG	TCAGAAAGAA	7080
GTTTAAGAGC	GATGCCATGA	GCGTCTTTCT	TATCCGTTTT	AGTTTTGCGA	AGTGATAATG	7140
ATTTGGCAAA	TTTCTTGATG	AGCAAAGGAT	TGTAGGTGTA	AACTTTATAT	CCTTGTTTCAT	7200
GCAGGAAGCTT	CAGTAGATTA	AAGGCATAAT	GTCCGGTATT	TTCAAGAGCG	ATGAGACAGT	7260
CTTGGTTGAG	CTGTCGAAGA	GACAGATCTA	AGAGTTCAAA	ACCAGCTTTA	TTATTTGAAA	7320
AAGTGAGTGG	TTTAAGAACA	GTTTTTCCTG	GAACATTCAA	GGCTGTAACA	TCGTGTTTAT	7380
TTTAGCGCAC	ATCAATGCCC	ACATAAAGCA	TGGGAGTATC	TCCAGATATA	GTATTTCAAG	7440
TCTACTGGGT	TATCCACGAA	CTTTTTCCTT	TGTACCTTA	GACGAGATAA	AACGTCTATG	7500